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101 Must-Know Challenging Maths Word Problems

Book 2

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B.A., PGDE, M. Sos. Sc.

Name: _____

Class: _____

Preface

101 Must-Know Challenging Maths Word Problems Book 2 presents word problems that test on important concepts so students can learn to **apply general mathematical problem-solving strategies and heuristics confidently.**

What's in this book?

This book comprises word problems often encountered by students in their tests and examinations. The questions are categorized into respective topics in accordance with the current **Primary Mathematics Syllabus.**

Solutions

Detailed step-by-step workings are included in the answer key for every question to show how a problem is solved. **Diagrams and mathematical models** are provided in most solutions to aid students in understanding the problem-solving processes.

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Learn to solve mathematics problems with bar models. This helps students to develop and hone creative and critical thinking skills.

The Editorial Team

Contents

Question 1

Jane has 80 apples and 142 oranges. Linda has 92 apples more than Jane. How many apples and oranges do they have altogether?

They have _____ apples and oranges altogether.

2

_____ eggs to bake some cakes and 12 eggs to bake some cookies. 56 eggs are left. How many eggs does she have at first?

She has _____ eggs at first.

Question 3

There are 124 red marbles and 135 blue marbles in a box. 218 green marbles are added into the box. How many marbles are there in the box now?

There are _____ marbles in the box now.

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Question 4

Joan has 54 stickers. She gives 32 stickers to her brother and she buys some stickers. She has 58 stickers in the end. How many stickers does she buy?

She buys _____ stickers.

Question 5

The difference between two numbers is 128. If the bigger number is 174, what is the smaller number?

The smaller number is _____.

Question 6

There are 156 students in a room. 81 students leave the room and some students enter the room. There are 108 students in the room in the end. How many students enter the room?

_____ students enter the room.

Question 7

There are 18 apples in bag A. There are twice as many apples in bag B as in bag A. How many apples are there altogether?

There are _____ apples altogether.

Question 8

Thomas shares 24 egg tarts equally with 2 friends. He then puts his share equally into 2 boxes. How many egg tarts are there in each box?

There are _____ egg tarts in each box.

Question 9

A box contains 7 red rubber bands and 6 yellow rubber bands. How many rubber bands are there in 4 such boxes?

There are _____ rubber bands in 4 such boxes.

Question 10

Tom buys 3 packs of balloons. There are 8 balloons in each pack. If he uses 16 balloons, how many balloons has he left?

He has _____ balloons left.

Question 11

Mr David has 235 oranges. He throws 89 rotten ones away and buys another 82 oranges. How many oranges does he have in the end?

He has _____ oranges in the end.

Question 12

Alice sews 4 buttons on a dress. After sewing 8 dresses, she has 19 buttons left. How many buttons does she have at first?

She has _____ buttons at first.

Question 13

Mr Brown sold 320 strawberries on Monday and 456 strawberries on Tuesday. He packed the rest of his strawberries equally into 10 punnets of 8 strawberries each. How many strawberries did he have at first?

He had _____ strawberries at first.

Question 14

There were 67 oranges in box A. There were 92 more oranges in box B than in box A. If 164 oranges were sold, how many oranges were left in both boxes?

_____ oranges were left.

Question 15

There were 784 people at a party. There were 220 men and 176 women. The rest were children. How many children were there?

There were _____ children.

Question 16

Sharon had 450 stickers. She gave some stickers to her brother and 124 stickers to her sister. She had 120 stickers left. How many stickers did she give to her brother?

She gave _____ stickers to her brother.

Question 17

Mr Rice bought some sweets for his students. He gave 9 students 4 sweets each and had 14 sweets left. How many sweets did he buy?

He bought _____ sweets.

Question 18

Alice arranged 4 white chairs and 5 black chairs in a row. If she arranged 8 such rows, how many chairs were there altogether?

There were _____ chairs altogether.

Question 19

Tom had 35 stickers. Jack had 120 more stickers than him and Jill had 48 fewer stickers than Jack. How many stickers did they have altogether?

They had _____ stickers altogether.

Question 20

Jerry bought 3 boxes of balloons. There were 10 balloons in each box. He repacked the balloons into boxes of 5. How many boxes of balloons were there?

There were _____ boxes of balloons.

Question 21

A fruiterer sold pears in bags of 3. For every 4 bags of pears bought, a customer would get 1 pear free. If Mr Scott bought 12 bags of pears, how many pears did he have altogether?

He had _____ pears altogether.

Question 22

Jack had 5 boxes of marbles. There were 10 marbles in each box. Betty had 28 marbles more than Jack. How many marbles did they have altogether?

They had _____ marbles altogether.

Question 23

Simon had 248 balloons. Susan had 16 balloons more than him. If she sold 86 balloons, how many balloons had she left?

She had _____ balloons left.

Question 24

Jane, Mary and Tom had 215 stickers. Jane had 63 stickers. Mary had 12 stickers fewer than Jane. How many stickers did Tom have?

Tom had _____ stickers.

Question 25

Mary had 6 packs of sweets. There were 5 sweets in each pack. She shared the sweets equally with 2 friends. How many sweets did each person receive?

Each person received _____ sweets.

Question 26

Mr Owen had a square field. He planted 5 trees on each side of his field with a tree at each corner. How many trees did he plant altogether?

He planted _____ trees altogether.

Question 27

Alice had some buttons. Tom gave her 14 buttons and she used 8 buttons. Alice then had 19 buttons. How many buttons did Alice have at first?

Alice had _____ buttons at first.

Question 28

Sue has 18 stamps and Bob has 12 stamps. How many stamps must Sue give to Bob so that both of them will have the same number of stamps?

Sue must give _____ stamps to Bob.

Question 29

Joanne had some rubber bands. Ann gave her 24 rubber bands and Peter gave her 15 rubber bands. Joanne then used 32 rubber bands. She had 97 rubber bands left. How many rubber bands did she have at first?

She had _____ rubber bands at first.

Question 30

There were 2 types of buses. A red bus could seat 10 students and a blue bus could seat 8 students. During an excursion, a school hired 5 red buses and 4 blue buses. How many students went on the excursion?

_____ students went on the excursion.

Question 31

Mrs Cole sold 3 boxes of apple pies. There were 4 apple pies in each box. Mrs Fay sold 8 apple pies more than her. If each of them had 17 apple pies left, what was the total number of apple pies both of them had at first?

Both of them had _____ apple pies at first.

Question 32

There were 180 green apples and 210 red apples in a basket. Mr Smith sold 84 green apples and 87 red apples. He also gave some apples to his friend and had 120 apples left. How many apples did Mr Smith give to his friend?

Mr Smith gave _____ apples to his friend.

Question 33

There were 125 cars in a car park. 36 cars were driven out of the car park and 74 cars were driven into the car park. How many cars were there in the car park in the end?

There were _____ cars in the car park in the end.

Question 34

There were 867 people in a shopping centre. 45 of them were children, 120 were women and the rest were men. How many more men than women were there in the shopping centre?

There were _____ more men than women in the shopping centre.

Question 35

Mark had some marbles. His mother gave him 12 marbles and he gave his sister 15 marbles. He had 80 marbles left. How many marbles did he have at first?

He had _____ marbles at first.

Question 36

There were 124 passengers on a train. At the first stop, 16 passengers boarded and 52 passengers alighted. At the second stop, some passengers alighted but none boarded. There were then 26 passengers left on the train. How many passengers alighted at the second stop?

_____ passengers alighted at the second stop.

Question 37

Andrew read 146 pages of a book on Sunday. He read 12 more pages on Sunday than on Monday. If there were 76 unread pages, how many pages were there in the book?

There were _____ pages in the book.

Question 38

There were 174 eggs in a carton. 12 rotten ones were thrown away and some were used to bake 4 similar cakes. 138 eggs were left. How many eggs were needed to bake each cake?

_____ eggs were needed to bake each cake.

Question 39

There were 40 marbles in 3 boxes, A, B and C. There was an equal number of marbles in boxes A and B. There were thrice as many marbles in box C than in box B. How many marbles were there in box C?

There were _____ marbles in box C.

Question 40

Tina has some buttons. There are 10 red buttons, 8 green buttons and 7 more orange buttons than green buttons. If the buttons are put equally in 3 groups, how many buttons are there in each group?

There are _____ buttons in each group.

Question 41

At a restaurant, there are 4 tables of 10 people, 5 tables of 4 people and 7 tables of 2 people. How many people are there altogether?

There are _____ people altogether.

Question 42

Sam tied 4 bunches of 7 balloons each. Linda tied 8 bunches of 6 balloons each. How many more balloons did Linda tie than Sam?

Linda tied _____ more balloons than Sam.

Question 43

Thomas had 70 stickers. Jane had 94 stickers more than him and Pat had 16 stickers fewer than Jane. How many stickers did they have altogether?

They had _____ stickers altogether.

Question 44

Sam and Alex had 20 marbles altogether. Sam gave Alex 6 marbles so that they would have an equal number of marbles. How many marbles did Sam have at first?

Sam had _____ marbles at first.

Question 45

There were 8 apple pies and chocolate pies in a box. An apple pie cost $5 and a chocolate pie cost $4. If $34 was collected from the sale of all pies, how many apple pies and chocolate pies were sold?

_____ apple pies and _____ chocolate pies were sold.

Question 46

There were 9 cars and 10 motorcycles in a car park. How many more car wheels were there than motorcycle wheels?

There were _____ more car wheels than motorcycle wheels.

Question 47

Mrs Jones bought 35 apples and put them equally into 5 boxes. She gave 3 boxes to her friends. How many apples had she left?

She had _____ apples left.

Question 48

A farmer collected 245 eggs. He sold 133 of them in the morning and 96 of them in the afternoon. The remaining eggs were placed equally on 2 trays. How many eggs were there on each tray?

There were _____ eggs on each tray.

Question 49

Mrs Cook baked 6 trays of cookies. There were 9 cookies on each tray. She then gave 12 cookies to her children and packed the rest equally into 2 bags. How many cookies were there in each bag?

There were _____ cookies in each bag.

Question 50

Mike and Giggs had 24 apples. Mike ate 4 apples and gave away 6 apples. They then had the same number of apples. How many apples did Giggs have?

Giggs had _____ apples.

Question 51

There were 15 children at a party. 6 of them ate 2 chicken wings each and the rest ate 5 chicken wings each. How many chicken wings were eaten?

_____ chicken wings were eaten.

Question 52

A box contained 50 muffins. There were 18 strawberry muffins, 24 chocolate muffins and some blueberry muffins. How many blueberry muffins were there in 5 such boxes?

There were _____ blueberry muffins in 5 such boxes.

Question 53

Alvin, Bob and Chris have 109 stickers altogether. Alvin has 25 stickers. Chris has twice as many stickers as Bob. How many stickers does Chris have?

Chris has _____ stickers.

Question 54

Sally has 7 erasers. She arranges them in a row. The length of the row of erasers is 28 cm long. What is the length of 3 erasers?

The length of 3 erasers is _____ cm.

Question 55

Tim is 10 cm taller than Jack. Jack is 5 cm taller than Alex. If Alex is 142 cm tall, how tall is Tim?

Tim is _____ cm tall.

Question 56

Mrs Drew bought some flour. She used 13 kg and packed the rest into 4 bags of 3 kg each. How much flour did she have at first?

She had _____ kg of flour at first.

Question 57

4 bags of flour and 3 bags of sugar have a mass of 39 kg. If each bag of sugar has a mass of 5 kg, what is the mass of each bag of flour?

Each bag of flour is _____ kg.

Question 58

There was 39 kg of flour in a sack. Mrs Taylor used 13 kg and packed the rest into small bags of 2 kg each. How many bags of flour did she have?

She had _____ bags of flour.

Question 59

A jackfruit is 250 g heavier than a durian. If the jackfruit is 590 g, what is the mass of 2 similar durians?

The mass of 2 similar durians is _____ g.

Question 60

Mrs Blake bought a watermelon. She gave $\frac{2}{7}$ of the watermelon to the neighbour and her children ate $\frac{3}{7}$ of the watermelon. What fraction of the watermelon was left?

_____ of the watermelon was left.

Question 61

A shepherd's pie was cut into equal pieces. Anna ate 2 pieces, Aaron ate 4 pieces and Adele ate 3 pieces. There were 2 pieces left. What fraction of the shepherd's pie was eaten?

_____ of the shepherd's pie was eaten.

Question 62

Andy has some erasers. $\frac{2}{13}$ of the erasers are blue and $\frac{4}{13}$ of the erasers are green. The rest are white. What fraction of the erasers are white?

_____ of the erasers are white.

Question 63

There are 3 containers of detergent. Container A has 4 litres of detergent more than container B. Container B has 2 litres of detergent more than container C. If there are 15 litres of detergent in container A, how many litres of detergent are there in the 3 containers?

There are _____ litres of detergent in the 3 containers.

Question 64

Betty collected 8 pails of rainwater. Each pail contained 7 litres of water. She used 12 litres of rainwater. How many litres of rainwater were left?

_____ litres of rainwater were left.

Question 65

At a shop, pencils are sold at 3 for $2. How many pencils can Tom buy if he has $12?

Tom can buy _____ pencils.

Question 66

A cap cost $9 and a pair of sunglasses cost $22. During a sale, the prices of all items were reduced by $3. How much would it cost to buy the cap and the pair of sunglasses during the sale?

It would cost $_____.

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Question 67

A pen and a pencil cost $9. Two similar pens cost $8. How much does the pencil cost?

The pencil costs $_____.

Question 68

A book costs $5, a pencil costs $2 and a pencil box costs $8. Jill wants to buy all the items but she needs $3 more. How much money does Jill have now?

Jill has $_____ now.

Question 69

Mary bought 5 mangoes for $10. How much would it cost to buy 9 mangoes?

It would cost $_____ to buy 9 mangoes.

Question 70

A book cost $8. Betty bought 5 such books and gave the cashier a $50 note. The cashier gave her the change in two-dollar notes only. How many two-dollar notes did she receive in change?

She received _____ two-dollar notes in change.

Question 71

Ann bought a pen that cost $19. She gave the cashier $50. She was given 5 five-dollar notes and some two-dollar notes in change. How many two-dollar notes did she receive?

She received _____ two-dollar notes in change.

Question 72

A T-shirt cost $12 and a pair of shorts cost $16. Lily bought both items and gave the cashier a $50 note. She received a ten-dollar note and some two-dollar notes in change. How many two-dollar notes did she receive?

She received _____ two-dollar notes.

Question 73

A papaya cost as much as 2 mangoes. Mrs Bell spent $12 on 3 papayas. What was the cost of a mango?

The cost of a mango was $_____.

Question 74

Mrs Wood spent $450 at a jewellery store and $120 at a department store. She had $88 left. How much did she have at first?

She had $_____ at first.

Question 75

Mary bought a toy that cost $16 and received 2 two-dollar notes and 2 five-dollar notes in change. How much did she have at first?

She had $_____ at first.

Question 76

A pen cost $5. It cost $2 more than a pencil. Mary had $30. She bought 2 pens and 4 pencils. How much had she left?

She had $_____ left.

Question 77

Tim had 6 two-dollar notes, 3 five-dollar notes and 1 one-dollar coin. He spent $18 on a book and $6 on a magazine. How much had he left?

He had $_____ left.

Question 78

After spending $17 on a pair of sunglasses and $12 on a wallet, Mr Taylor had $58 left. How much did he have at first?

He had $_____ at first.

Question 79

3 T-shirts cost as much as 2 pairs of shorts. If a T-shirt costs $8, what is the cost of a pair of shorts?

The cost of a pair of shorts is $_____.

Question 80

4 watermelons and 3 guavas cost $22. If a guava costs $2, what is the cost of a watermelon?

The cost of a watermelon is $_____.

Question 81

Lucy spent $28 on a T-shirt and a pair of shorts. The T-shirt cost $6 more than the pair of shorts. How much did the T-shirt cost?

The T-shirt cost $_____.

Question 82

Alice used all her money to buy 4 boxes of coloured pencils. A box of coloured pencils cost $3 less than a box of crayons. If a box of crayons cost $9, how much money did Alice have at first?

Alice had $_____ at first.

Question 83

A bag of 3 pears cost $2 and a bag of 5 apples cost $3. How much would it cost to buy 9 pears and 15 apples?

It would cost $_____ to buy 9 pears and 15 apples.

Question 84

2 pairs of socks cost $4. A scarf cost $13 more than one pair of socks. If Sally had $10 left after buying 2 pairs of socks and a scarf, how much did she have at first?

She had $_____ at first.

Question 8 books cost $32. What is the cost of 6 such books?

85

The cost of 6 such books is $_____.

Question Tom earns $8 for every hour that he works. If he works from 1 pm to 10 pm, how much will he earn altogether?

86

He will earn $_____ altogether.

Question An exercise book cost $3. Joanne bought 6 such exercise books and had $19 left. How much did she have at first?

87

She had $_____ at first.

Question 88

A small dumpling cost $2 and a big dumpling cost $3 more than a small dumpling. Mrs Cox bought 5 small dumplings and 6 big dumplings. How much did she pay?

Mrs Cox paid $_____.

Question 89

Peter was queuing for food in the school canteen. There were 3 children in front of him and 2 children behind him. All of them in the queue had $5 each. How much money did the children have altogether?

The children had $_____ altogether.

Question 90

1 kg of durians cost $4. Ann bought 8 kg of durians. If she had $80 at first, how much had she left?

Ann had $_____ left.

Question 91

Mrs Brown bought a watch for $86 and a pen for $10. She gave the cashier a $100 note and received her change. How much did she receive?

She received _____.

Question 92

James had $51. He spent $18 on a toy and the rest of the money on 3 similar T-shirts. How much did each T-shirt cost?

Each T-shirt cost $_____.

Question 93

Mr Cook bought 2 similar clocks and a watch. Each clock cost $97. He gave the cashier $250 and received $12 in change. What was the cost of the watch?

The cost of the watch was $_____.

Question 94

A bag of apples cost $5 and a bag of pears cost $4. Alice had just enough money to buy 3 bags of apples and 7 bags of pears. How much money did she have?

She had $_____.

Question 95

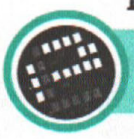
Tom and Mary shared to buy a gift. Tom paid $3 more than Mary. If the gift cost $21, how much did Tom pay?

Tom paid $_____.

Question 96

Susan is 28 years old this year. Her brother is 3 years older than her. How old will her brother be in 5 years' time?

Her brother will be _____ years old in 5 years' time.



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Question 97

Mary is 23 years old this year. Her brother is twice as old as her. How old was her brother two years ago?

Her brother was _____ years old two years ago.

Question 98

There are 125 pages in a book. Jack reads 15 pages on the first day and 20 pages on the second day. He increases his reading by 5 pages on each following day until he completes the book. Following this pattern, how many days will he take to complete the book?

He will take _____ days to complete the book.

Question 99

Ann and Jack had some stamps. Ann gave Jack 18 stamps and he used 6 stamps. Each of them then had 32 stamps left.

(a) How many stamps did Ann have at first?

(b) How many stamps did Jack have at first?

(a) Ann had _____ stamps at first.

(b) Jack had _____ stamps at first.

Question 100

Mrs Jackson baked some egg tarts and packed them into boxes of 5 each. She sold 8 such boxes and had 6 boxes left.

(a) How many egg tarts were left?

(b) How many egg tarts did she bake?

(a) _____ egg tarts were left.

(b) She baked _____ egg tarts.

Question 101

James bought 3 packs of French fries and 2 burgers for $14. The burger cost twice as much as one pack of French fries.

(a) How much would James need to pay for one pack of French fries?

(b) How much would James need to pay for 4 packs of French fries and 5 burgers?

(a) James would need to pay _____.

(b) James would need to pay _____.

Solution to Question 88

Step 1 : Use mental calculation to find the cost of each big dumpling

$2 + 3 = 5$

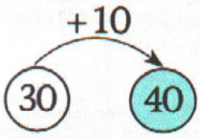
Step 2 : Multiply to find the cost of 5 small dumplings

$5 \times 2 = 10$

Step 3 : Multiply to find the cost of 6 big dumplings

$6 \times 5 = 30$

Step 4 : Use 'counting on' method to find the amount of money Mrs Cox paid

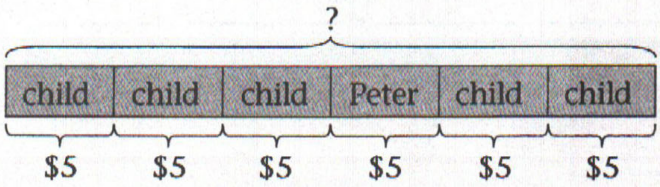


$30 + 10 = 40$

Mrs Cox paid $40.

Solution to Question 89

Step 1 : Draw a model



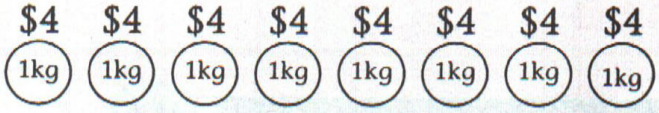
Step 2 : Multiply to find the amount of money that the children had altogether

$6 \times 5 = 30$

The children had $30 altogether.

Solution to Question 90

Step 1 : Draw diagrams



Step 2 : Multiply to find the total amount of money spent

$8 \times 4 = 32$

Step 3 : Use 'subtracting with regrouping' method to find the amount of money left

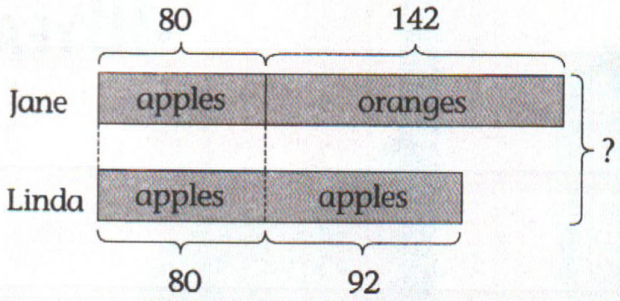
$80 - 32 = 48$

$$\begin{array}{r} {}^{7}\cancel{8}\,{}^{10}\cancel{0} \\ -\ 3\ 2 \\ \hline 4\ 8 \end{array}$$

Ann had $48 left.

Solution to Question 1

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find the number of apples and oranges that Jane has

$80 + 142 = 222$

$$\begin{array}{r} {\scriptstyle 1} \\ 142 \\ +\ 80 \\ \hline 222 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the number of apples Linda has

$80 + 92 = 172$

$$\begin{array}{r} 80 \\ +\ 92 \\ \hline 172 \end{array}$$

Step 4 : Use 'adding without regrouping' method to find the total number of apples and oranges they have altogether

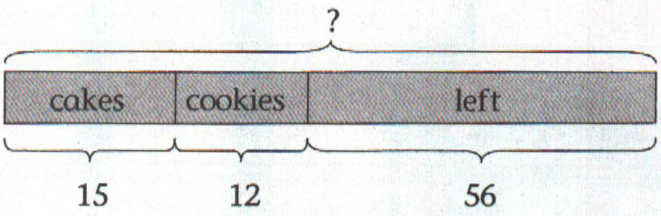
$222 + 172 = 394$

$$\begin{array}{r} 222 \\ +\ 172 \\ \hline 394 \end{array}$$

They have 394 apples and oranges altogether.

Solution to Question 2

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the total number of eggs she has used for baking cakes and cookies

$15 + 12 = 27$

$$\begin{array}{r} 15 \\ +\ 12 \\ \hline 27 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of eggs she has at first

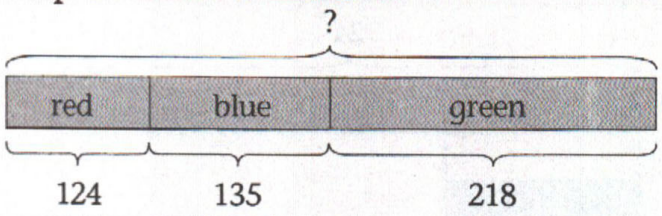
$56 + 27 = 83$

$$\begin{array}{r} {\scriptstyle 1} \\ 56 \\ +\ 27 \\ \hline 83 \end{array}$$

She has 83 eggs at first.

Solution to Question 3

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the number of red and blue marbles

$124 + 135 = 259$

$$\begin{array}{r} 1\ 2\ 4 \\ +\ 1\ 3\ 5 \\ \hline 2\ 5\ 9 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of marbles

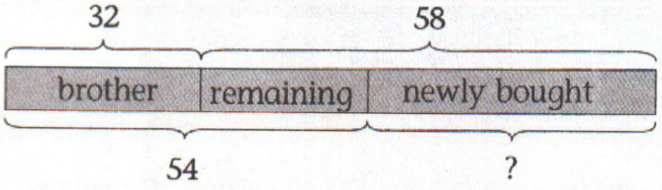
$259 + 218 = 477$

$$\begin{array}{r} {\scriptstyle 1\ \ \ } \\ 2\ 5\ 9 \\ +\ 2\ 1\ 8 \\ \hline 4\ 7\ 7 \end{array}$$

There are 477 marbles in the box now.

Solution to Question 4

Step 1 : Draw a model



Step 2 : Use 'subtracting without regrouping' method to find the number of remaining stickers

$54 - 32 = 22$

$$\begin{array}{r} 5\ 4 \\ -\ 3\ 2 \\ \hline 2\ 2 \end{array}$$

Step 3 : Use 'subtracting without regrouping' method to find the number of stickers she buys

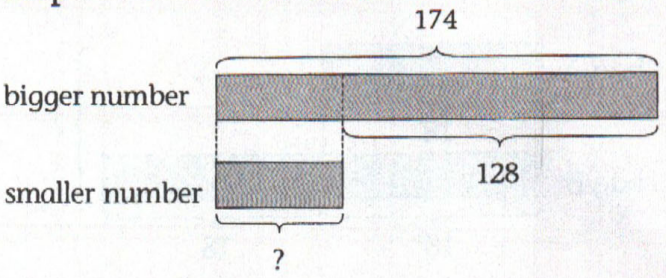
$58 - 22 = 36$

$$\begin{array}{r} 5\ 8 \\ -\ 2\ 2 \\ \hline 3\ 6 \end{array}$$

She buys 36 stickers.

Solution to Question 5

Step 1 : Draw a model



Step 2 : Use 'subtracting with regrouping' method to find the smaller number

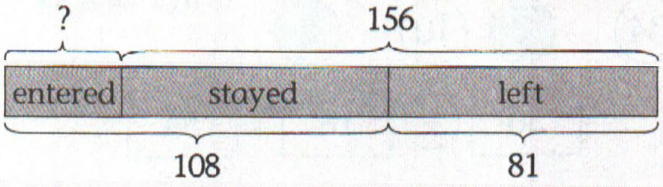
$174 - 128 = 46$

$$\begin{array}{r} {\scriptstyle 6\ 14\ \ } \\ 1\ \cancel{7}\ \cancel{4} \\ -\ 1\ 2\ 8 \\ \hline 4\ 6 \end{array}$$

The smaller number is 46.

Solution to Question 6

Step 1 : Draw a model



Step 2 : Use 'subtracting with regrouping' method to find the number of students who has stayed in the room

$156 - 81 = 75$

$$\begin{array}{r} {\scriptstyle 0\ 15\ \ } \\ 1\ \cancel{5}\ 6 \\ -\ \ 8\ 1 \\ \hline \ \ 7\ 5 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of students who have entered the room

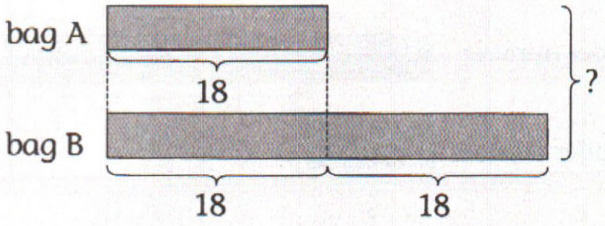
$108 - 75 = 33$

$$\begin{array}{r} {\scriptstyle 0\ 10\ \ } \\ 1\ \cancel{0}\ 8 \\ -\ \ 7\ 5 \\ \hline \ \ 3\ 3 \end{array}$$

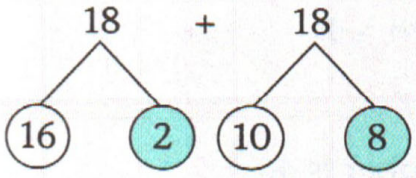
33 students enter the room.

Solution to Question 7

Step 1 : Draw a model

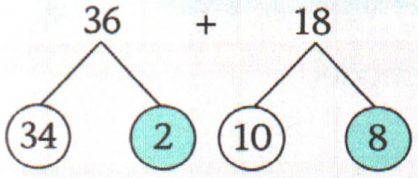


Step 2 (Method 1) :
Use number bonds to find the total number of apples



2 + 8 = 10
16 + 10 = 26
10 + 26 = 36

18 + 18 = 36



2 + 8 = 10
34 + 10 = 44
10 + 44 = 54

36 + 18 = 54

Step 2 (Method 2) :

Multiply to find the total number of apples

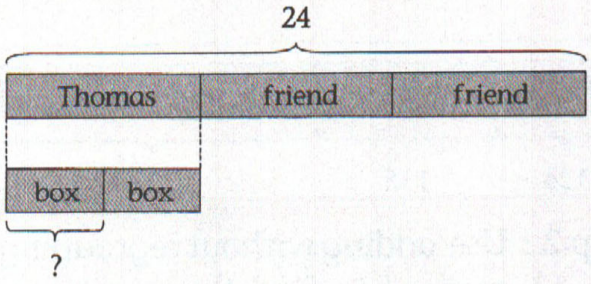
$18 \times 3 = 54$

$$\begin{array}{r} {\scriptstyle 2}\ 1\,8 \\ \times\ \ 3 \\ \hline 5\,4 \end{array}$$

There are 54 apples altogether.

Solution to Question 8

Step 1 : Draw a model



Step 2 : Divide to find the number of egg tarts that each of them has

$24 \div 3 = 8$ (3 × 8 = 24)

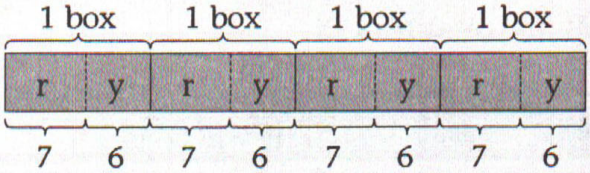
Step 3 : Divide to find the number of egg tarts in each box

$8 \div 2 = 4$ (2 × 4 = 8)

There are 4 egg tarts in each box.

Solution to Question 9

Step 1 : Draw a model



r : red
y : yellow

Step 2 : Use mental calculation to find the number of red and yellow rubber bands in a box
7 + 6 = 13

Step 3 : Multiply to find the number of rubber bands in 4 such boxes

$13 \times 4 = 52$

$$\begin{array}{r} {\scriptstyle 1}\ 1\,3 \\ \times\ \ 4 \\ \hline 5\,2 \end{array}$$

There are 52 rubber bands in 4 such boxes.

Solution to Question 10

Step 1 : Multiply to find the total number of balloons that Tom has bought

$3 \times 8 = 24$

Step 2 : Use 'subtracting with regrouping' method to find the number of balloons he has left

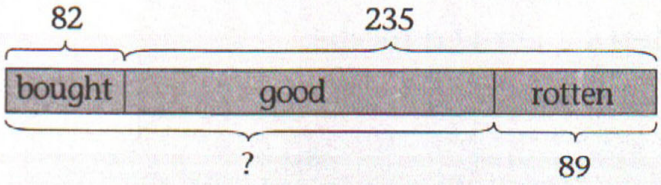
$24 - 16 = 8$

$$\begin{array}{r} {\scriptstyle 1\ 14} \\ \not{2}\ \not{4} \\ -\ 1\ 6 \\ \hline 8 \end{array}$$

He has 8 balloons left.

Solution to Question 11

Step 1 : Draw a model



Step 2 : Use 'subtracting with regrouping' method to find the number of good oranges

$235 - 89 = 146$

$$\begin{array}{r} {\scriptstyle 1\ 12\ 15} \\ \not{2}\ \not{3}\ \not{5} \\ -\ \ 8\ 9 \\ \hline 1\ 4\ 6 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of oranges he has in the end

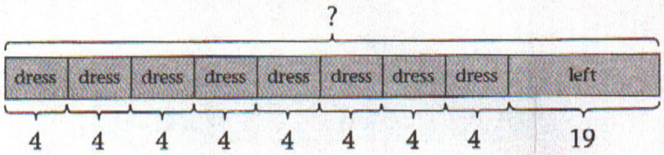
$146 + 82 = 228$

$$\begin{array}{r} {\scriptstyle 1} \\ 1\ 4\ 6 \\ +\ \ 8\ 2 \\ \hline 2\ 2\ 8 \end{array}$$

He has 228 oranges in the end.

Solution to Question 12

Step 1 : Draw a model



Step 2 : Multiply to find the number of buttons for 8 dresses

$8 \times 4 = 32$

Step 3 : Use 'adding with regrouping' method to find the total number of buttons she has at first

$32 + 19 = 51$

$$\begin{array}{r} {\scriptstyle 1} \\ 3\ 2 \\ +\ 1\ 9 \\ \hline 5\ 1 \end{array}$$

She has 51 buttons at first.

Solution to Question 13

Step 1 : Multiply to find the number of strawberries in 10 punnets

$10 \times 8 = 80$

Step 2 : Use 'adding without regrouping' method to find the number of strawberries that he had sold on both days

$320 + 456 = 776$

$$\begin{array}{r} 3\ 2\ 0 \\ +\ 4\ 5\ 6 \\ \hline 7\ 7\ 6 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of strawberries he had at first

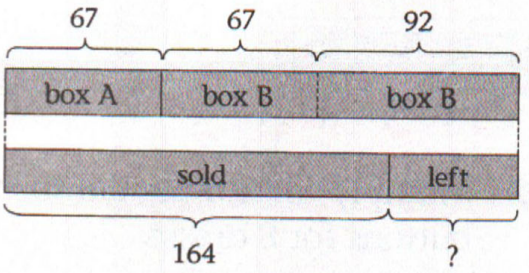
$776 + 80 = 856$

$$\begin{array}{r} {\scriptstyle 1} \\ 7\ 7\ 6 \\ +\ \ 8\ 0 \\ \hline 8\ 5\ 6 \end{array}$$

He had 856 strawberries at first.

Solution to Question 14

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find the number of oranges in box B

67 + 92 = 159

$$\begin{array}{r} 67 \\ +\ 92 \\ \hline 159 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of oranges in boxes A and B

159 + 67 = 226

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 159 \\ +\ 67 \\ \hline 226 \end{array}$$

Step 4 : Use 'subtracting with regrouping' method to find the number of oranges left

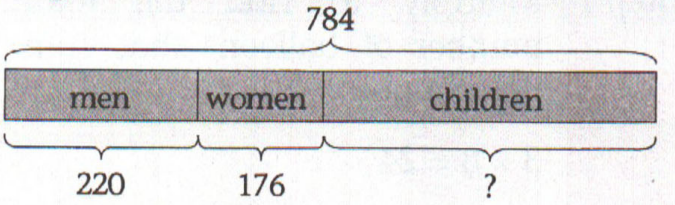
226 – 164 = 62

$$\begin{array}{r} {\scriptstyle 1\ 12} \\ \cancel{2}\,\cancel{2}6 \\ -\ 164 \\ \hline 62 \end{array}$$

62 oranges were left.

Solution to Question 15

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the total number of men and women

220 + 176 = 396

$$\begin{array}{r} 220 \\ +\ 176 \\ \hline 396 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of children

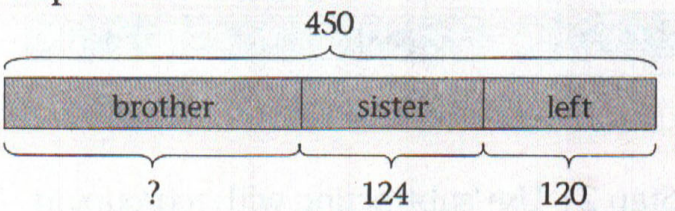
784 – 396 = 388

$$\begin{array}{r} {\scriptstyle 6\ 17\ 14} \\ \cancel{7}\,\cancel{8}\,\cancel{4} \\ -\ 396 \\ \hline 388 \end{array}$$

There were 388 children.

Solution to Question 16

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the total number of stickers she had given to her sister and left

120 + 124 = 244

$$\begin{array}{r} 120 \\ +\ 124 \\ \hline 244 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of stickers she had given to her brother

450 – 244 = 206

$$\begin{array}{r} {\scriptstyle 4\ 10} \\ 4\,\cancel{5}\,\cancel{0} \\ -\ 244 \\ \hline 206 \end{array}$$

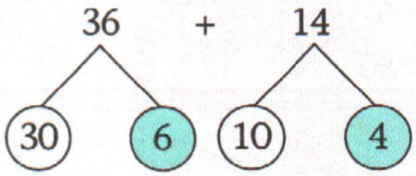
She gave 206 stickers to her brother.

Solution to Question 17

Step 1 : Multiply to find the number of sweets he had given to his 9 students

$9 \times 4 = 36$

Step 2 : Use number bonds to find the total number of sweets he had bought



$6 + 4 = 10$
$30 + 10 = 40$
$10 + 40 = 50$

36	+	14	=	50

He bought 50 sweets.

Solution to Question 18

Step 1 : Use mental calculation to find the number of white and black chairs in each row

$4 + 5 = 9$

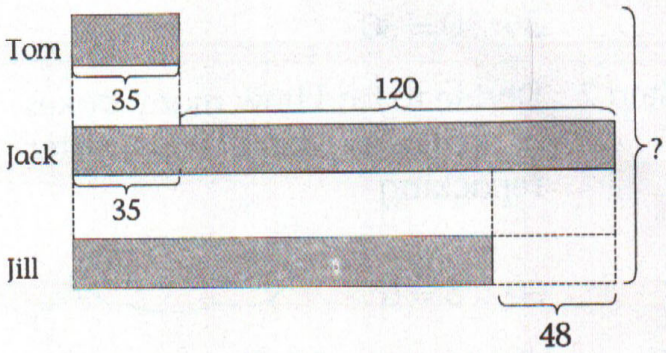
Step 2 : Multiply to find the total number of chairs in 8 rows

$8 \times 9 = 72$

There were 72 chairs altogether.

Solution to Question 19

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the number of stickers Jack had

$120 + 35 = 155$

$$\begin{array}{r} 1\,2\,0 \\ +\quad 3\,5 \\ \hline 1\,5\,5 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of stickers Jill had

$155 - 48 = 107$

$$\begin{array}{r} {\scriptstyle 4\ 15} \\ 1\,\not{5}\,\not{5} \\ -\quad 4\,8 \\ \hline 1\,0\,7 \end{array}$$

Step 4 : Use 'adding with regrouping' method to find the number of stickers they had

$155 + 35 = 190$

$190 + 107 = 297$

$$\begin{array}{r} {\scriptstyle 1} \\ 1\,5\,5 \\ +\quad 3\,5 \\ \hline 1\,9\,0 \end{array}$$

$$\begin{array}{r} 1\,9\,0 \\ +\,1\,0\,7 \\ \hline 2\,9\,7 \end{array}$$

They had 297 stickers altogether.

Solution to Question 20

Step 1 : Multiply to find the total number of balloons

$3 \times 10 = 30$

Step 2 : Divide to find how many boxes of balloons there were after repacking

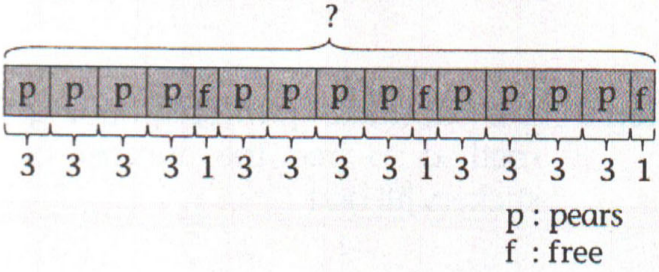
$30 \div 5 = 6$

$5 \times 6 = 30$

There were 6 boxes of balloons.

Solution to Question 21

Step 1 : Draw a model



Step 2 : Multiply to find the number of pears in 12 bags

$12 \times 3 = 36$

Step 3 : Divide to find the number of free pears Mr Scott would receive

4 bags → 1 pear free
8 bags → 2 pears free
12 bags → 3 pears free

$12 \div 4 = 3$

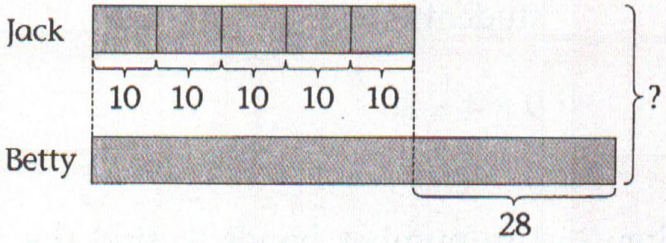
Step 4 : Use mental calculation to find the total number of pears that Mr Scott had altogether

$36 + 3 = 39$

He had 39 pears altogether.

Solution to Question 22

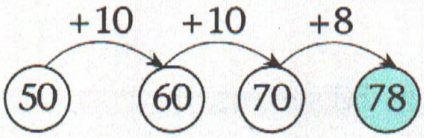
Step 1 : Draw a model



Step 2 : Multiply to find the number of marbles that Jack had

$5 \times 10 = 50$

Step 3 : Use 'counting on' method to find the number of marbles that Betty had



$50 + 28 = 78$

Step 4 : Use 'adding with regrouping' method to find the number of marbles that they had altogether

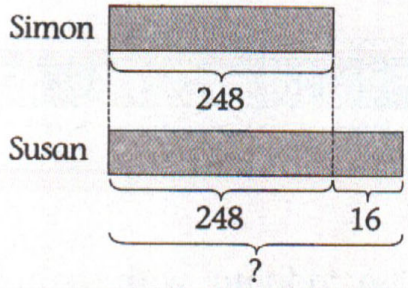
$50 + 78 = 128$

$$\begin{array}{r} 5\,0 \\ +\ 7\,8 \\ \hline 1\,2\,8 \end{array}$$

They had 128 marbles altogether.

Solution to Question 23

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find how many balloons Susan had

248 + 16 = 264

$$\begin{array}{r} {\scriptstyle 1} \\ 248 \\ +\ 16 \\ \hline 264 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find how many balloons Susan had left

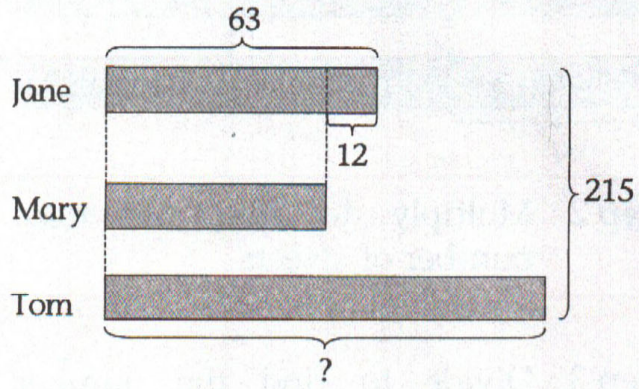
264 – 86 = 178

$$\begin{array}{r} {\scriptstyle 1\ 15\ 14} \\ 2\not{6}\not{4} \\ -\ 86 \\ \hline 178 \end{array}$$

She had 178 balloons left.

Solution to Question 24

Step 1 : Draw a model



Step 2 : Use 'subtracting without regrouping' method to find the number of stickers that Mary had

63 – 12 = 51

$$\begin{array}{r} 63 \\ -\ 12 \\ \hline 51 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of stickers that Jane and Mary had

63 + 51 = 114

$$\begin{array}{r} 63 \\ +\ 51 \\ \hline 114 \end{array}$$

Step 4 : Use 'subtracting without regrouping' method to find the number of stickers that Tom had

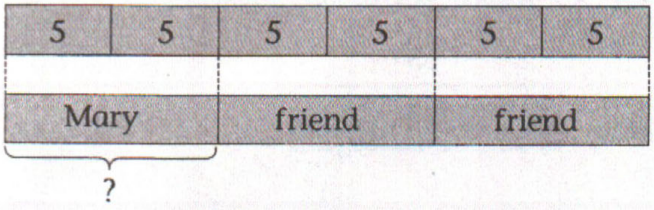
215 – 114 = 101

$$\begin{array}{r} 215 \\ -\ 114 \\ \hline 101 \end{array}$$

Tom had 101 stickers.

Solution to Question 25

Step 1 : Draw a model



Step 2 : Multiply to find the total number of sweets

$6 \times 5 = 30$

Step 3 : Divide to find the number of sweets that each person received

Mary + 2 friends = 3 persons

$30 \div 3 = 10$

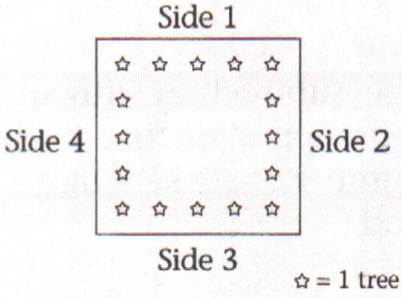
$3 \times 10 = 30$

Each person received 10 sweets.

Solution to Question 26

Step 1 : Draw a diagram

Spatial Visualisation: A square has 4 equal sides and 4 corners



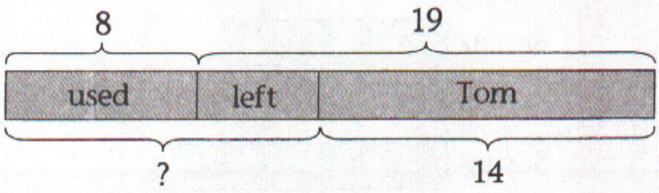
Step 2 : Use mental calculation to find the total number of trees planted on the four sides of the field

$5 + 4 + 4 + 3 = 16$

He planted 16 trees altogether.

Solution to Question 27

Step 1 : Draw a model

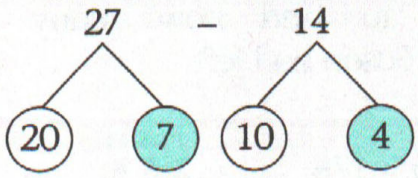


Step 2 : Use 'adding with regrouping' method to find the number of buttons that Alice had after Tom had given her 14 buttons

$19 + 8 = 27$

$$\begin{array}{r} {\scriptstyle 1} \\ 19 \\ +\ 8 \\ \hline 27 \end{array}$$

Step 3 : Use number bonds to find the number of buttons she had at first



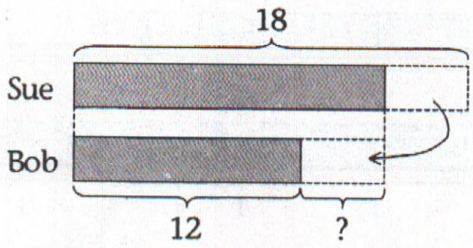
$7 - 4 = 3$
$20 - 10 = 10$
$3 + 10 = 13$

27 ⊖ 14 = 13

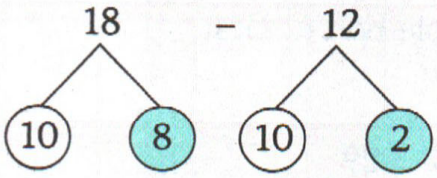
Alice had 13 buttons at first.

Solution to Question 28

Step 1 : Draw a model



Step 2 : Use number bonds to find the difference in the number of stamps between Sue and Bob



8 – 2 = 6
10 – 10 = 0
6 + 0 = 6

18 (–) 12 = 6

Step 3 : Divide to find the number of stamps Sue must give to Bob

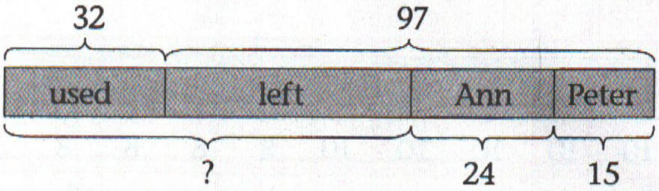
2 × 3 = 6

6 ÷ 2 = 3

Sue must give 3 stamps to Bob.

Solution to Question 29

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the number of rubber bands Joanne had received from Ann and Peter

24 + 15 = 39

$$\begin{array}{r} 24 \\ +\ 15 \\ \hline 39 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of rubber bands that Joanne had left after taking away the number of rubber bands received from Ann and Peter

97 – 39 = 58

$$\begin{array}{r} {}^{8}\cancel{9}\ {}^{17}\cancel{7} \\ -\ 39 \\ \hline 58 \end{array}$$

Step 4 : Use 'adding with regrouping' method to find the number of rubber bands she had at first

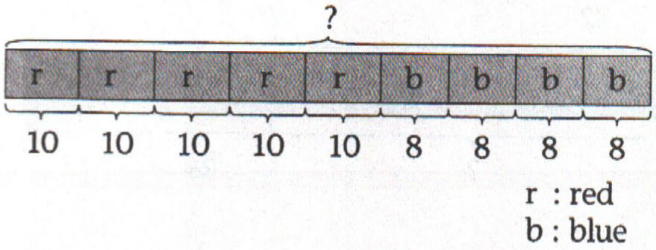
58 + 32 = 90

$$\begin{array}{r} {}^{1} \\ 58 \\ +\ 32 \\ \hline 90 \end{array}$$

She had 90 rubber bands at first.

Solution to Question 30

Step 1 : Draw a model



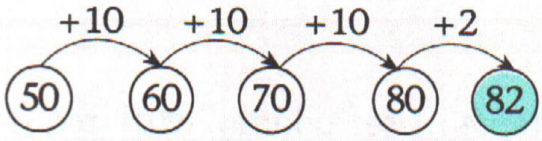
Step 2 : Multiply to find the total number of students in the red buses

$5 \times 10 = 50$

Step 3 : Multiply to find the total number of students in the blue buses

$4 \times 8 = 32$

Step 4 : Use 'counting on' method to find the total number of students who went on the excursion

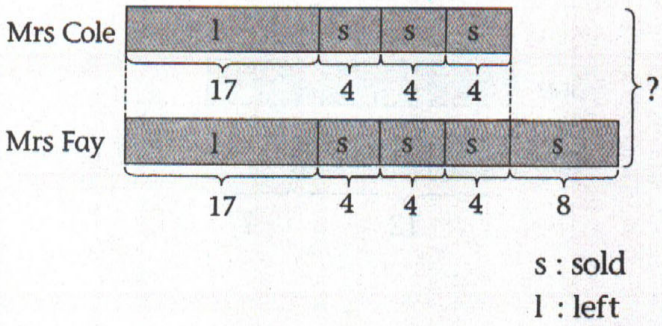


$50 + 32 = 82$

82 students went on the excursion.

Solution to Question 31

Step 1 : Draw a model



Step 2 : Multiply and use 'adding without regrouping' method to find the number of apple pies Mrs Cole had at first

$3 \times 4 = 12$

$12 + 17 = 29$

$$\begin{array}{r} 1\,2 \\ +\,1\,7 \\ \hline 2\,9 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the number of apple pies Mrs Fay had at first

$29 + 8 = 37$

$$\begin{array}{r} {\scriptstyle 1} \\ 2\,9 \\ +\quad 8 \\ \hline 3\,7 \end{array}$$

Step 4 : Use 'adding with regrouping' method to find the total number of apple pies

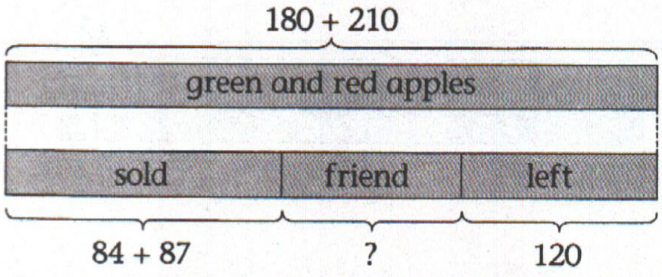
$29 + 37 = 66$

$$\begin{array}{r} {\scriptstyle 1} \\ 2\,9 \\ +\,3\,7 \\ \hline 6\,6 \end{array}$$

Both of them had 66 apple pies at first.

Solution to Question 32

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the total number of green and red apples in the basket

180 + 210 = 390

$$\begin{array}{r} 1\,8\,0 \\ +\,2\,1\,0 \\ \hline 3\,9\,0 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of green and red apples that he sold

84 + 87 = 171

$$\begin{array}{r} {\scriptstyle 1} \\ 8\,4 \\ +\,8\,7 \\ \hline 1\,7\,1 \end{array}$$

Step 4 : Use 'adding without regrouping' method to find the total number of apples that were sold and left

171 + 120 = 291

$$\begin{array}{r} 1\,7\,1 \\ +\,1\,2\,0 \\ \hline 2\,9\,1 \end{array}$$

Step 5 : Use 'subtracting with regrouping' method to find the number of apples that he had given to his friend

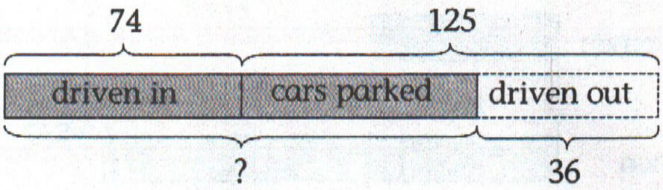
390 – 291 = 99

$$\begin{array}{r} {\scriptstyle 2\ 18\ 10} \\ 3\,\not{9}\,\not{0} \\ -\,2\,9\,1 \\ \hline 9\,9 \end{array}$$

Mr Smith gave 99 apples to his friend.

Solution to Question 33

Step 1 : Draw a model



Step 2 : Use 'subtracting with regrouping' method to find the number of cars that remained in the car park after 36 cars were driven out

125 – 36 = 89

$$\begin{array}{r} {\scriptstyle 0\ 11\ 15} \\ 1\,\not{2}\,\not{5} \\ -\,3\,6 \\ \hline 8\,9 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total number of cars in the car park in the end

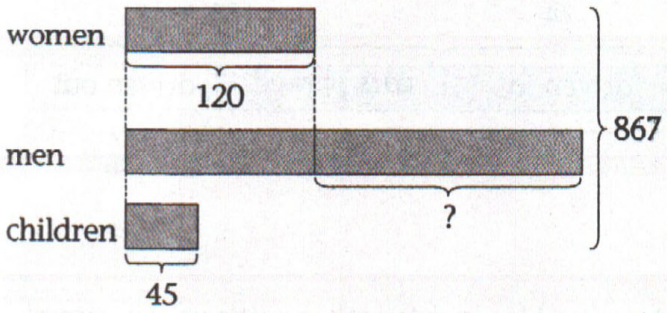
74 + 89 = 163

$$\begin{array}{r} {\scriptstyle 1} \\ 7\,4 \\ +\,8\,9 \\ \hline 1\,6\,3 \end{array}$$

There were 163 cars in the car park in the end.

Solution to Question 34

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the number of women and children

120 + 45 = 165

$$\begin{array}{r} 1\,2\,0 \\ +\quad 4\,5 \\ \hline 1\,6\,5 \end{array}$$

Step 3 : Use 'subtracting without regrouping' method to find the number of men

867 – 165 = 702

$$\begin{array}{r} 8\,6\,7 \\ -\,1\,6\,5 \\ \hline 7\,0\,2 \end{array}$$

Step 4 : Use 'subtracting with regrouping' method to find how many more men than women there were

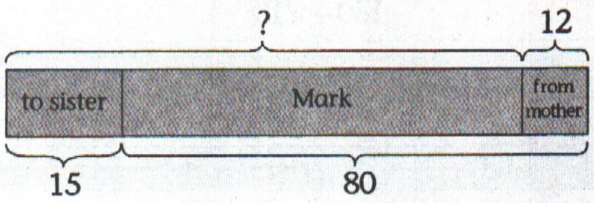
702 – 120 = 582

$$\begin{array}{r} {\scriptstyle 6}\ {\scriptstyle 10} \\ \not{7}\ \not{0}\ 2 \\ -\,1\,2\,0 \\ \hline 5\,8\,2 \end{array}$$

There were 582 more men than women in the shopping centre.

Solution to Question 35

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find the number of marbles he had before giving his sister 15 marbles

80 + 15 = 95

$$\begin{array}{r} 8\,0 \\ +\,1\,5 \\ \hline 9\,5 \end{array}$$

Step 3 : Use 'subtracting without regrouping' method to find the number of marbles he had at first

95 – 12 = 83

$$\begin{array}{r} 9\,5 \\ -\,1\,2 \\ \hline 8\,3 \end{array}$$

He had 83 marbles at first.

Solution to Question 36

Step 1 : Use 'subtracting with regrouping' method to find the number of passengers on the train after 52 passengers alighted at the first stop

$124 - 52 = 72$

$$\begin{array}{r} {\scriptstyle 0\ 12} \\ 1\ \not{2}\ 4 \\ -\ 5\ 2 \\ \hline 7\ 2 \end{array}$$

Step 2 : Use 'adding without regrouping' method to find the number of passengers on the train after 16 passengers boarded at the first stop

$72 + 16 = 88$

$$\begin{array}{r} 7\ 2 \\ +\ 1\ 6 \\ \hline 8\ 8 \end{array}$$

Step 3 : Use 'subtracting without regrouping' method to find the number of passengers who alighted at the second stop

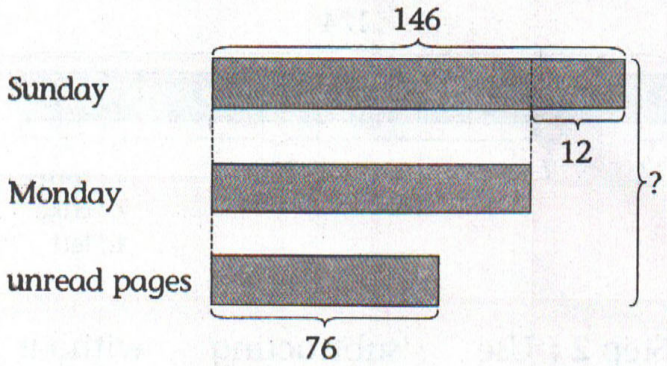
$88 - 26 = 62$

$$\begin{array}{r} 8\ 8 \\ -\ 2\ 6 \\ \hline 6\ 2 \end{array}$$

62 passengers alighted at the second stop.

Solution to Question 37

Step 1 : Draw a model



Step 2 : Use 'subtracting without regrouping' method to find the number of pages he read on Monday

$146 - 12 = 134$

$$\begin{array}{r} 1\ 4\ 6 \\ -\ 1\ 2 \\ \hline 1\ 3\ 4 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the number of pages he read on both days

$146 + 134 = 280$

$$\begin{array}{r} {\scriptstyle 1\ \ \ } \\ 1\ 4\ 6 \\ +\ 1\ 3\ 4 \\ \hline 2\ 8\ 0 \end{array}$$

Step 4 : Use 'adding with regrouping' method to find the number of pages in the book

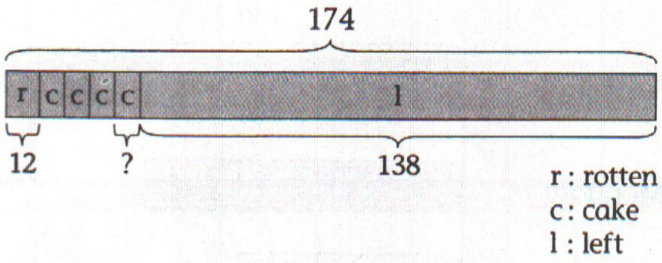
$280 + 76 = 356$

$$\begin{array}{r} {\scriptstyle 1\ \ \ } \\ 2\ 8\ 0 \\ +\ \ 7\ 6 \\ \hline 3\ 5\ 6 \end{array}$$

There were 356 pages in the book.

Solution to Question 38

Step 1 : Draw a model



Step 2 : Use 'subtracting without regrouping' method to find the number of eggs that were not rotten

174 – 12 = 162

$$\begin{array}{r} 1\,7\,4 \\ -\quad 1\,2 \\ \hline 1\,6\,2 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of eggs used to bake 4 similar cakes

162 – 138 = 24

$$\begin{array}{r} {\scriptstyle 5\ 12} \\ 1\,\cancel{6}\,\cancel{2} \\ -\ 1\,3\,8 \\ \hline 2\,4 \end{array}$$

Step 4 : Divide to find the number of eggs needed to bake each cake

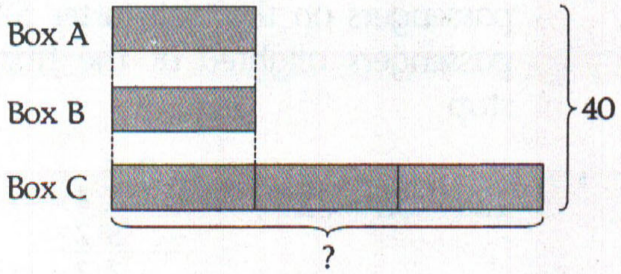
4 × 6 = 24

24 ÷ 4 = 6

6 eggs were needed to bake each cake.

Solution to Question 39

Step 1 : Draw a model



Step 2 : Divide to find the number of marbles for each equal part

5 × 8 = 40

5 units → 40

1 unit → 40 ÷ 5 = 8

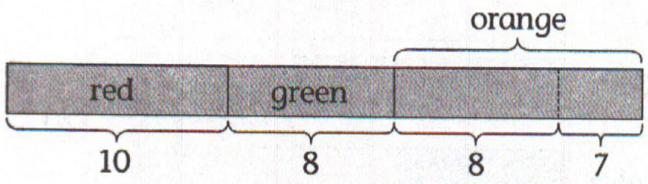
Step 3 : Multiply to find the number of marbles in box C

3 units → 3 × 8 = 24

There were 24 marbles in box C.

Solution to Question 40

Step 1 : Draw a model



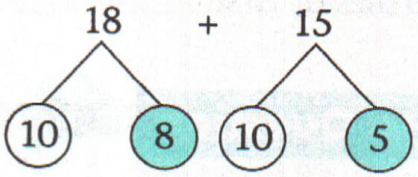
Step 2 : Use mental calculation to find the number of orange buttons

$8 + 7 = 15$

Step 3 : Use mental calculation to find the number of red and green buttons

$10 + 8 = 18$

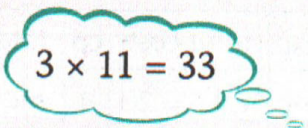
Step 4 : Use number bonds to find the total number of buttons



$8 + 5 = 13$
$10 + 10 = 20$
$13 + 20 = 33$

18	+	15	=	33

Step 5 : Divide to find the number of buttons in each group



$33 \div 3 = 11$

There are 11 buttons in each group.

Solution to Question 41

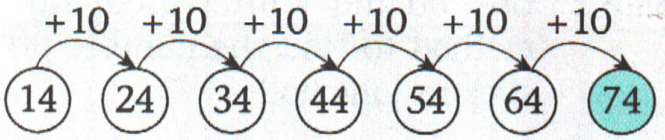
Step 1 : Multiply to find the number of people at the tables

Tables of 2 people : $7 \times 2 = 14$

Tables of 4 people : $5 \times 4 = 20$

Tables of 10 people : $4 \times 10 = 40$

Step 2 : Use 'counting on' method to find the total number of people at the restaurant



$14 + 20 + 40 = 74$

There are 74 people altogether.

Solution to Question 42

Step 1 : Multiply to find the number of balloons each had tied

Sam : $4 \times 7 = 28$

Linda : $8 \times 6 = 48$

Step 2 : Use 'subtracting without regrouping' method to find how many more balloons Linda had tied than Sam

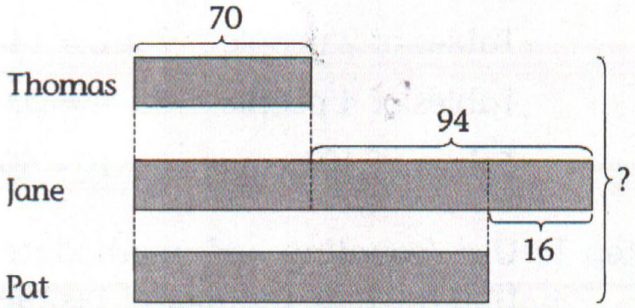
$48 - 28 = 20$

$$\begin{array}{r} 4\ 8 \\ -\ 2\ 8 \\ \hline 2\ 0 \end{array}$$

Linda tied 20 more balloons than Sam.

Solution to Question 43

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find the number of stickers Jane had

$70 + 94 = 164$

$$\begin{array}{r} 70 \\ +\ 94 \\ \hline 164 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of stickers Pat had

$164 - 16 = 148$

$$\begin{array}{r} {}^{5}\cancel{1}\,{}^{14}\cancel{6}\,\cancel{4} \\ -\ 16 \\ \hline 148 \end{array}$$

Step 4 : Use 'adding with regrouping' method to find the number of stickers they had altogether

$164 + 70 = 234$

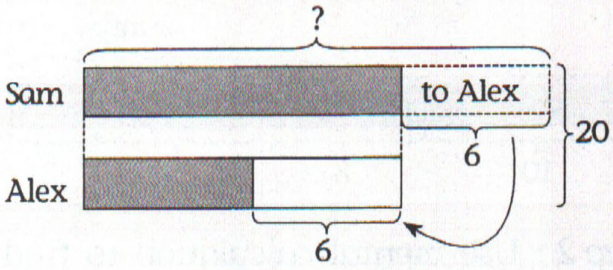
$234 + 148 = 382$

$$\begin{array}{r} {}^{1} \\ 164 \\ +\ 70 \\ \hline 234 \end{array} \qquad \begin{array}{r} {}^{1} \\ 234 \\ +\ 148 \\ \hline 382 \end{array}$$

They had 382 stickers altogether.

Solution to Question 44

Step 1 : Draw a model



Step 2 : Divide to find the number of marbles each of them had in the end

$20 \div 2 = 10$

Step 3 : Use mental calculation to find the number of marbles Sam had at first

$10 + 6 = 16$

Sam had 16 marbles at first.

Solution to Question 45

Construct a table and use 'Guess and Check' method to find the number of apple pies and chocolate pies sold

* Start by having equal number of apple pies and chocolate pies.

ap	total cost	cp	total cost	total earned	check
4	$4 \times 5 = 20$	4	$4 \times 4 = 16$	$20 + 16 = 36$	×
3	$3 \times 5 = 15$	5	$5 \times 4 = 20$	$15 + 20 = 35$	×
2	$2 \times 5 = 10$	6	$6 \times 4 = 24$	$10 + 24 = 34$	✓

ap : apple pies

cp : chocolate pies

2 apple pies and 6 chocolate pies were sold.

Solution to Question 46

Step 1 : Multiply to find the number of car wheels

$9 \times 4 = 36$

Step 2 : Multiply to find the number of motorcycle wheels

$10 \times 2 = 20$

Step 3 : Use 'subtracting without regrouping' method to find how many more car wheels there were than motorcycle wheels

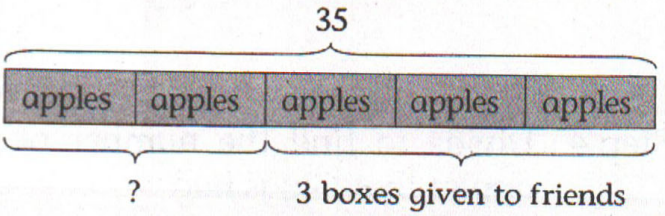
$36 - 20 = 16$

$$\begin{array}{r} 3\ 6 \\ -\ 2\ 0 \\ \hline 1\ 6 \end{array}$$

There were 16 more car wheels than motorcycle wheels.

Solution to Question 47

Step 1 : Draw a model



Step 2 : Divide to find the number of apples in each box

$35 \div 5 = 7$

Step 3 : Use mental calculation to find the number of boxes she had left

$5 - 3 = 2$

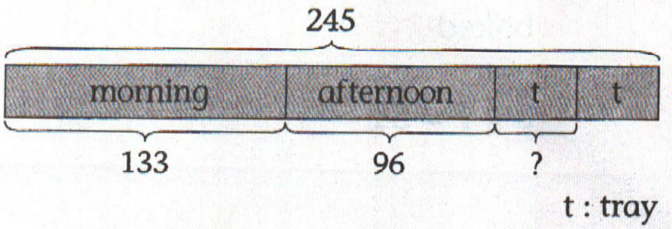
Step 4 : Multiply to find the total number of apples in 2 boxes

$2 \times 7 = 14$

She had 14 apples left.

Solution to Question 48

Step 1 : Draw a model



t : tray

Step 2 : Use 'adding with regrouping' method to find the number of eggs he sold altogether

$133 + 96 = 229$

$$\begin{array}{r} {\scriptstyle 1} \\ 1\ 3\ 3 \\ +\ \ 9\ 6 \\ \hline 2\ 2\ 9 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of eggs left

$245 - 229 = 16$

$$\begin{array}{r} {\scriptstyle 3}\ {\scriptstyle 15} \\ 2\ \cancel{4}\ \cancel{5} \\ -\ 2\ 2\ 9 \\ \hline 1\ 6 \end{array}$$

Step 4 : Divide to find the number of eggs on each tray

$2 \times 8 = 16$

$16 \div 2 = 8$

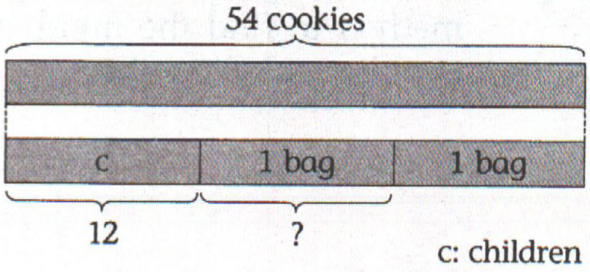
There were 8 eggs on each tray.

Solution to Question 49

Step 1 : Multiply to find the total number of cookies Mrs Cook baked

$6 \times 9 = 54$

Step 2 : Draw a model



c: children

Step 3 : Use 'subtracting without regrouping' method to find the number of cookies left after she gave some to her children

$54 - 12 = 42$

$$\begin{array}{r} 5\ 4 \\ -\ 1\ 2 \\ \hline 4\ 2 \end{array}$$

Step 4 : Divide to find the number of cookies in each bag

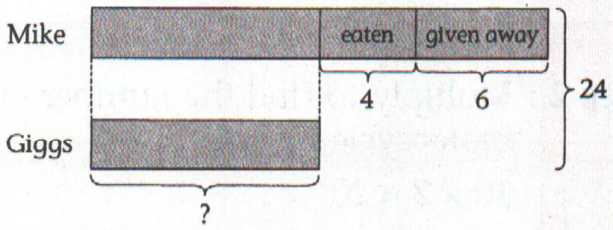
$42 \div 2 = 21$

$$\begin{array}{r} 21 \\ 2\overline{)42} \\ -4\downarrow \\ \hline 02 \\ -\ 2 \\ \hline 0 \end{array}$$

There were 21 cookies in each bag.

Solution to Question 50

Step 1 : Draw a model



Step 2 : Use mental calculation to find the total number of apples Mike had eaten and given away

$4 + 6 = 10$

Step 3 : Use 'subtracting without regrouping' method to find the number of apples that Mike and Giggs had left in the end

$24 - 10 = 14$

$$\begin{array}{r} 2\ 4 \\ -\ 1\ 0 \\ \hline 1\ 4 \end{array}$$

Step 4 : Divide to find the number of apples that Giggs had

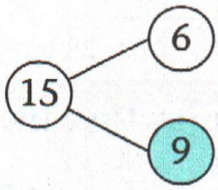
$2 \times 7 = 14$

$14 \div 2 = 7$

Giggs had 7 apples.

Solution to Question 51

Step 1 : Use number bonds to find the number of children who ate 5 chicken wings each



15 − 6 = 9

Step 2 : Multiply to find the number of chicken wings that each group of children ate

Children who ate 2 chicken wings each:

$6 \times 2 = 12$

Children who ate 5 chicken wings each:

$9 \times 5 = 45$

Step 3 : Use 'adding without regrouping' method to find the total number of chicken wings that were eaten

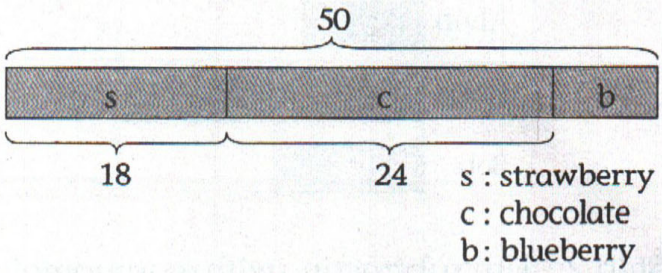
$12 + 45 = 57$

$$\begin{array}{r} 1\ 2 \\ +\ 4\ 5 \\ \hline 5\ 7 \end{array}$$

57 chicken wings were eaten.

Solution to Question 52

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find the number of strawberry and chocolate muffins in each box

$18 + 24 = 42$

$$\begin{array}{r} {\scriptstyle 1} \\ 1\ 8 \\ +\ 2\ 4 \\ \hline 4\ 2 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the number of blueberry muffins in each box

$50 - 42 = 8$

$$\begin{array}{r} {\scriptstyle 4}\ {\scriptstyle 10} \\ 5\ \not{0} \\ -\ 4\ 2 \\ \hline 8 \end{array}$$

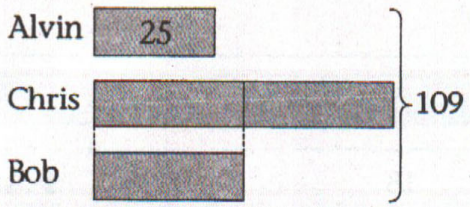
Step 4 : Multiply to find the total number of blueberry muffins in 5 such boxes

$5 \times 8 = 40$

There were 40 blueberry muffins in 5 such boxes.

Solution to Question 53

Step 1 : Draw a model

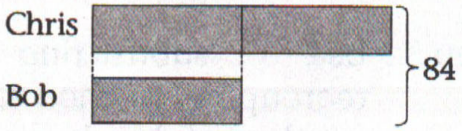


Step 2 : Use 'subtracting with regrouping' method to find the number of stickers Chris and Bob have

$109 - 25 = 84$

$$\begin{array}{r} {}^{0}\,{}^{10} \\ 1\,\not{0}\,9 \\ -\ 2\ 5 \\ \hline 8\ 4 \end{array}$$

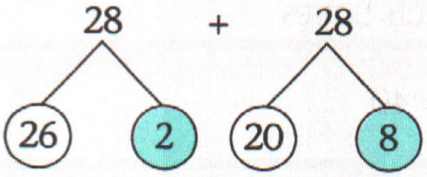
Step 3 : Divide to find the number of stickers Bob has



$84 \div 3 = 28$

$$\begin{array}{r} 28 \\ 3\overline{)84} \\ -6\downarrow \\ \hline 24 \\ -24 \\ \hline 0 \end{array}$$

Step 4 : Use number bonds to find the number of stickers Chris has



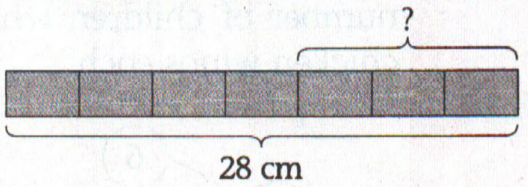
$2 + 8 = 10$
$26 + 20 = 46$
$10 + 46 = 56$

28 + 28 = 56

Chris has 56 stickers.

Solution to Question 54

Step 1 : Draw a model



Step 2 : Divide to find the length of 1 eraser

$28 \div 7 = 4$

$4 \times 7 = 28$

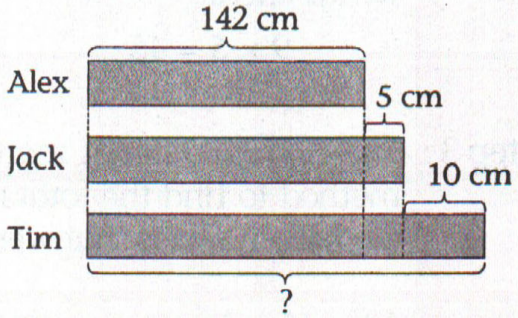
Step 3 : Multiply to find the length of 3 erasers

$4 \times 3 = 12$

The length of 3 erasers is 12 cm.

Solution to Question 55

Step 1 : Draw a model

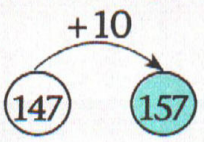


Step 2 : Use 'adding without regrouping' method to find Jack's height

$142 + 5 = 147$

$$\begin{array}{r} 1\ 4\ 2 \\ +\quad 5 \\ \hline 1\ 4\ 7 \end{array}$$

Step 3 : Use 'counting on' method to find Tim's height

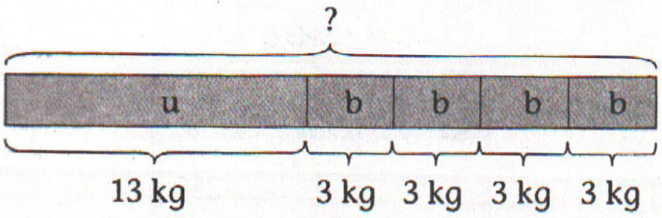


$147 + 10 = 157$

Tim is 157 cm tall.

Solution to Question 56

Step 1 : Draw a model



b: bag
u: used

Step 2 : Multiply to find the total mass of flour that she had packed

$4 \times 3 = 12$

Step 3 : Use 'adding without regrouping' method to find the total mass of flour she had at first

used + packed = total

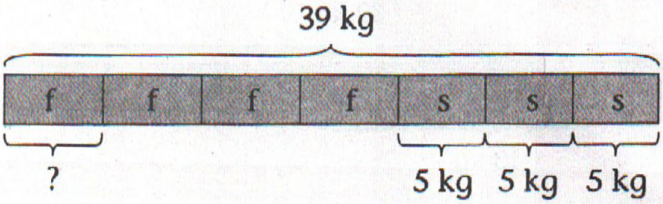
$13 + 12 = 25$

$$\begin{array}{r} 1\ 3 \\ +\ 1\ 2 \\ \hline 2\ 5 \end{array}$$

She had 25 kg of flour at first.

Solution to Question 57

Step 1 : Draw a model



s: sugar
f: flour

Step 2 : Multiply to find the total mass of the 3 bags of sugar

$3 \times 5 = 15$

Step 3 : Use 'subtracting without regrouping' method to find the total mass of 4 bags of flour

$39 - 15 = 24$

$$\begin{array}{r} 3\ 9 \\ -\ 1\ 5 \\ \hline 2\ 4 \end{array}$$

Step 4 : Divide to find the mass of each bag of flour

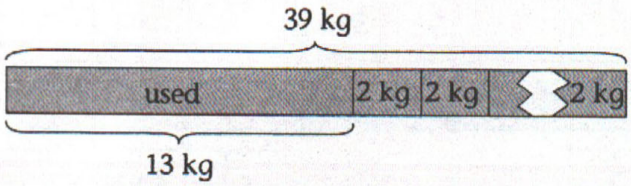
$4 \times 6 = 24$

$24 \div 4 = 6$

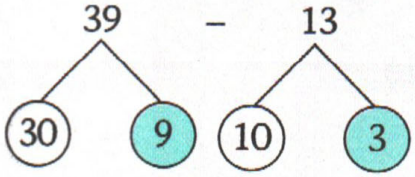
Each bag of flour is 6 kg.

Solution to Question 58

Step 1 : Draw a model



Step 2 : Use number bonds to find the mass of the flour that was packed



$9 - 3 = 6$
$30 - 10 = 20$
$6 + 20 = 26$

39 ⊖ 13 = 26

Step 3 : Divide to find the number of bags she had packed

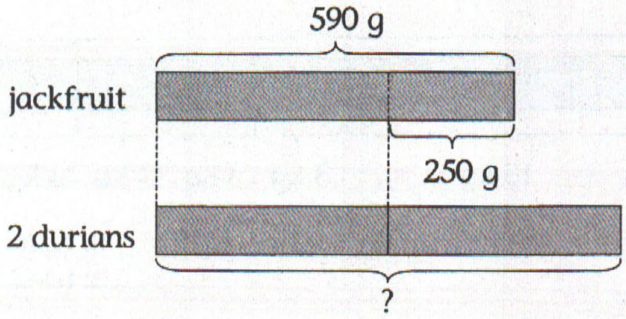
$2 \times 13 = 26$

$26 \div 2 = 13$

She had 13 bags of flour.

Solution to Question 59

Step 1 : Draw a model



Step 2 : Use 'subtracting without regrouping' method to find the mass of a durian

$590 - 250 = 340$

$$\begin{array}{r} 590 \\ -\ 250 \\ \hline 340 \end{array}$$

Step 3 : Use 'adding without regrouping' method to find the mass of 2 similar durians

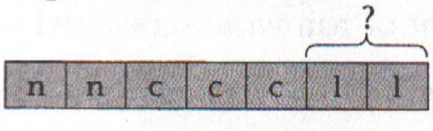
$340 + 340 = 680$

$$\begin{array}{r} 340 \\ +\ 340 \\ \hline 680 \end{array}$$

The mass of 2 similar durians is 680 g.

Solution to Question 60

Step 1 : Draw a model



n : neighbour
c : children
l : left

Step 2 : Add to find the fraction of watermelon given to neighbour and eaten by her children

$$\frac{2}{7} + \frac{3}{7} = \frac{5}{7}$$

Step 3 : Subtract to find the fraction of the watermelon left

$$1 \text{ whole} = \frac{7}{7}$$

$$\frac{7}{7} - \frac{5}{7} = \frac{2}{7}$$

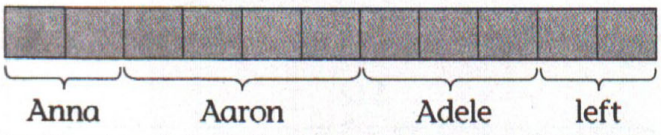
$\frac{2}{7}$ of the watermelon was left.

Solution to Question 61

Step 1 : Use mental calculation to find how many pieces were there at first

$$2 + 4 + 3 + 2 = 11$$

Step 2 : Draw a model



Step 3 : Use mental calculation to find the number of pieces that were eaten

$$2 + 4 + 3 = 9$$

Step 4 : Form the fraction

Total → 11
Eaten → 9
Fraction → $\frac{9}{11}$

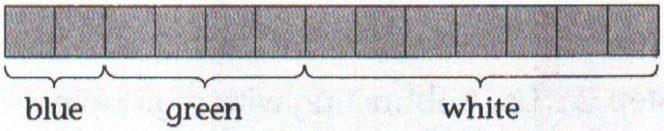
$\frac{9}{11}$ of the shepherd's pie was eaten.

Solution to Question 62

Step 1 : Add to find the fraction of blue and green erasers

$$\frac{2}{13} + \frac{4}{13} = \frac{6}{13}$$

Step 2 : Draw a model



Step 3 : Subtract to find the fraction of white erasers

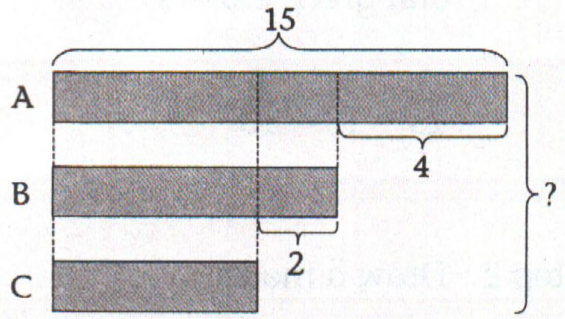
$$1 \text{ whole (total)} = \frac{13}{13}$$

$$\frac{13}{13} - \frac{6}{13} = \frac{7}{13}$$

$\frac{7}{13}$ of the erasers are white.

Solution to Question 63

Step 1 : Draw a model



Step 2 : Use 'subtracting with regrouping' method to find the amount of detergent in each of the 3 containers

A → 15 litres
B → 15 – 4 = 11 litres
C → 11 – 2 = 9 litres

Step 3 : Use 'adding with regrouping' method to find the total amount of detergent in the 3 containers

Total → 15 + 11 + 9
= 15 + 20
= 35

$$\begin{array}{r} {\scriptstyle 1}\ 1\ 1 \\ +\quad 9 \\ \hline 2\ 0 \end{array}$$

$$\begin{array}{r} 1\ 5 \\ +\ 2\ 0 \\ \hline 3\ 5 \end{array}$$

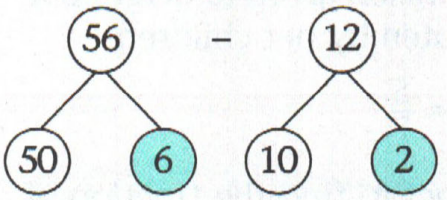
There are 35 litres of detergent in the 3 containers.

Solution to Question 64

Step 1 : Multiply to find the total amount of rainwater collected

$8 \times 7 = 56$

Step 2 : Use number bonds to find the amount of rainwater left



6 – 2 = 4
50 – 10 = 40
4 + 40 = 44

56	–	12	=	44

44 litres of rainwater were left.

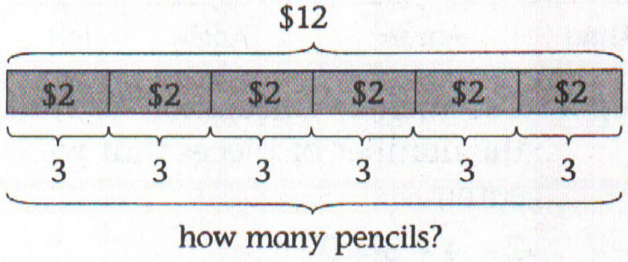
Solution to Question 65

Step 1 : Divide to find how many sets of pencils (3 pencils in 1 set) Tom can buy with $12

$12 \div 2 = 6$

$2 \times 6 = 12$

Step 2 : Draw a model



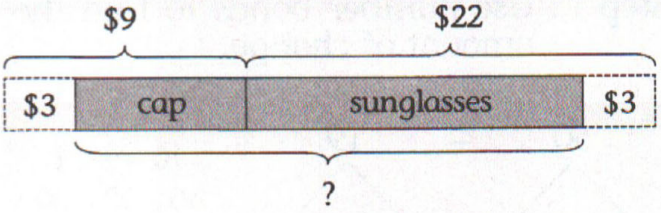
Step 3 : Multiply to find the total number of pencils that Tom can buy

$6 \times 3 = 18$

Tom can buy 18 pencils.

Solution to Question 66

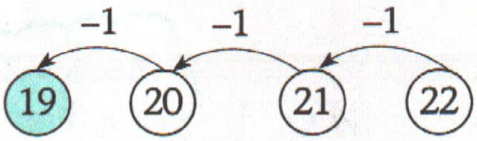
Step 1 : Draw a model



Step 2 : Use mental calculation to find the price of the cap during the sale

$9 - 3 = 6$

Step 3 : Use 'counting backwards' method to find the price of the pair of sunglasses during the sale



$22 - 3 = 19$

Step 4 : Use 'adding with regrouping' method to find the total price of both items during the sale

$19 + 6 = 25$

$$\begin{array}{r} {\scriptstyle 1} \\ 19 \\ +\ 6 \\ \hline 25 \end{array}$$

It would cost $25.

Solution to Question 67

Step 1 : Divide to find the price of each pen

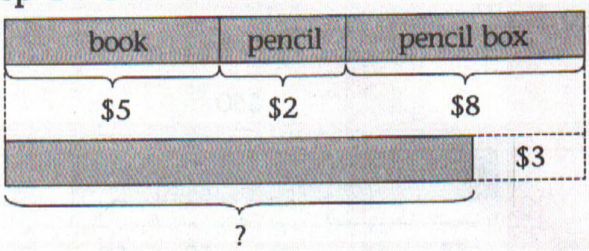
$8 \div 2 = 4$

Step 2 : Use mental calculation to find the price of the pencil

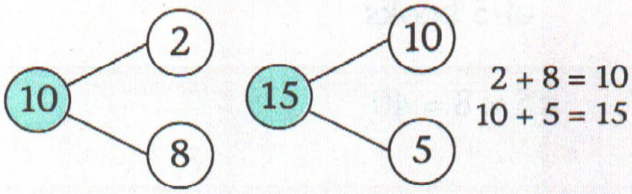
$9 - 4 = 5$

The pencil costs $5.

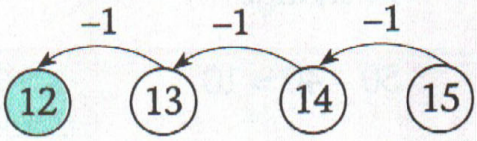
Step 1 : Draw a model



Step 2 : Use number bonds to find the total cost of the book, pencil and pencil box



Step 3 : Use 'counting backwards' method to find the amount of money Jill has

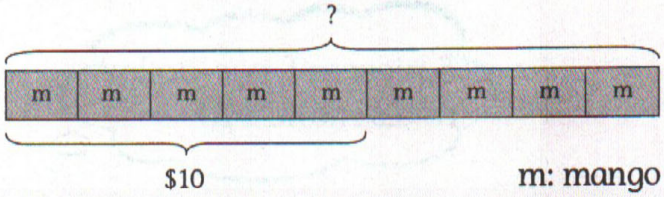


$15 - 3 = 12$

Jill has $12 now.

Solution to Question 69

Step 1 : Draw a model



Step 2 : Divide to find the cost of each mango

$10 \div 5 = 2$

$2 \times 5 = 10$

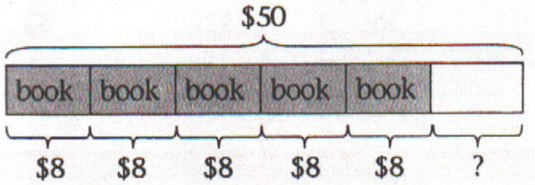
Step 3 : Multiply to find the cost of 9 mangoes

$9 \times 2 = 18$

It would cost $18 to buy 9 mangoes.

Solution to Question 70

Step 1 : Draw a model



Step 2 : Multiply to find the total cost of 5 books

$5 \times 8 = 40$

Step 3 : Use 'subtracting without regrouping' method to find the amount of money she received in change

$50 - 40 = 10$

$$\begin{array}{r} 5\ 0 \\ -\ 4\ 0 \\ \hline 1\ 0 \end{array}$$

Step 4 : Divide to find the number of two-dollar notes she received in change

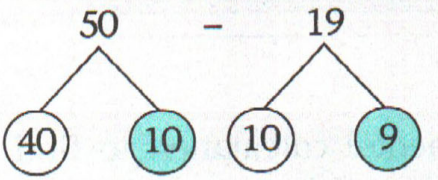
5 pieces of two-dollar notes make $10

$10 \div 2 = 5$

She received 5 two-dollar notes in change.

Solution to Question 71

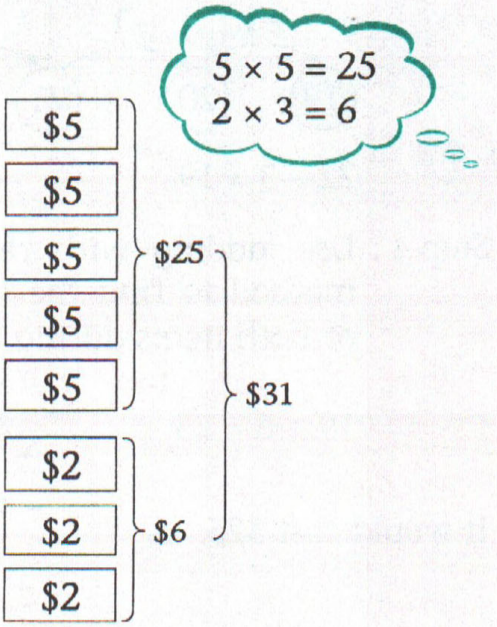
Step 1 : Use number bonds to find the amount of change



$10 - 9 = 1$
$40 - 10 = 30$
$1 + 30 = 31$

50 ⊖ 19 = 31

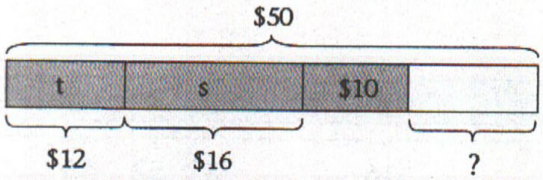
Step 2 : Draw diagrams to find the number of five-dollar and two-dollar notes she received from the cashier



She received 3 two-dollar notes in change.

Solution to Question 72

Step 1 : Draw a model



t : T-shirt
s : shorts

Step 2 : Use 'adding without regrouping' method to find the total cost of a T-shirt and a pair of shorts

$12 + 16 = 28$

$$\begin{array}{r} 1\ 2 \\ +\ 1\ 6 \\ \hline 2\ 8 \end{array}$$

Step 3 : Use 'subtracting with regrouping' method to find the change she received

$50 - 28 = 22$

$$\begin{array}{r} {}^{4}\cancel{5}\ {}^{10}\cancel{0} \\ -\ 2\ 8 \\ \hline 2\ 2 \end{array}$$

Step 4 : Use 'subtracting without regrouping' method to find the amount of money in two-dollar notes

$22 - 10 = 12$

$$\begin{array}{r} 2\ 2 \\ -\ 1\ 0 \\ \hline 1\ 2 \end{array}$$

Step 5 : Divide to find the number of two-dollar notes she received

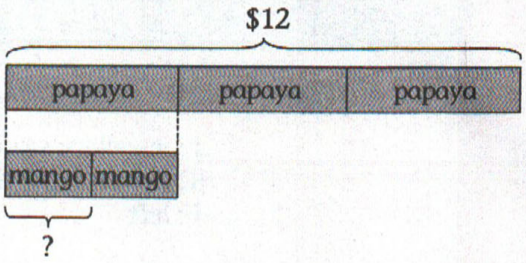
$2 \times 6 = 12$

$12 \div 2 = 6$

She received 6 two-dollar notes.

Solution to Question 73

Step 1 : Draw a model



Step 2 : Divide to find the cost of each papaya

$3 \times 4 = 12$

$12 \div 3 = 4$

Step 3 : Divide to find the cost of a mango

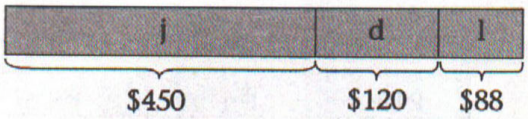
$2 \times 2 = 4$

$4 \div 2 = 2$

The cost of a mango was $2.

Solution to Question 74

Step 1 : Draw a model



j : jewellery store
d : department store
l : left

Step 2 : Use 'adding without regrouping' method to find the amount of money that Mrs Wood spent in the jewellery store and department store

$450 + 120 = 570$

$$\begin{array}{r} 4\ 5\ 0 \\ +\ 1\ 2\ 0 \\ \hline 5\ 7\ 0 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the amount of money that she had at first

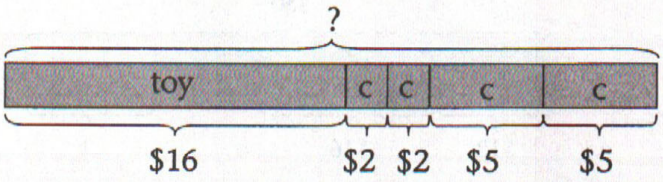
$570 + 88 = 658$

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 5\ 7\ 0 \\ +\ \ 8\ 8 \\ \hline 6\ 5\ 8 \end{array}$$

She had $\$\underline{658}$ at first.

Solution to Question 75

Step 1 : Draw a model



c : change

Step 2 : Multiply and use mental calculation to find the amount of money that she received in change

$2 \times 2 = 4$
$2 \times 5 = 10$
$4 + 10 = 14$

Step 3 : Use 'adding with regrouping' method to find the amount of money she had at first

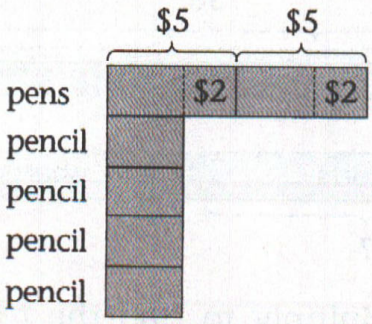
$16 + 14 = 30$

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 1\ 6 \\ +\ 1\ 4 \\ \hline 3\ 0 \end{array}$$

She had $\$\underline{30}$ at first.

Solution to Question 76

Step 1 : Draw a model



Step 2 : Use mental calculation to find the cost of each pencil

$5 - 2 = 3$

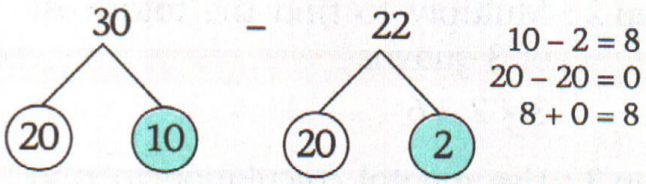
Step 3 : Multiply to find the cost of 2 pens and 4 pencils

2 pens: $2 \times 5 = 10$
4 pencils: $4 \times 3 = 12$

Step 4 : Use mental calculation to find the total cost of 2 pens and 4 pencils

$10 + 12 = 22$

Step 5 : Use number bonds to find the amount of money that she had left



$10 - 2 = 8$
$20 - 20 = 0$
$8 + 0 = 8$

30 − 22 = 8

She had $8 left.

Solution to Question 77

Step 1 : Multiply to find the amount of money in two-dollar notes and five-dollar notes

$6 \times 2 = 12$
$3 \times 5 = 15$

Step 2 : Use 'adding without regrouping' method to find the amount of money that Tim had

$12 + 15 = 27$
$27 + 1 = 28$

$$\begin{array}{r} 1\ 2 \\ +\ 1\ 5 \\ \hline 2\ 7 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the amount of money he had spent

$18 + 6 = 24$

$$\begin{array}{r} {\scriptstyle 1}\ \ \\ 1\ 8 \\ +\ \ 6 \\ \hline 2\ 4 \end{array}$$

Step 4 : Use 'subtracting without regrouping' method to find the amount of money he had left

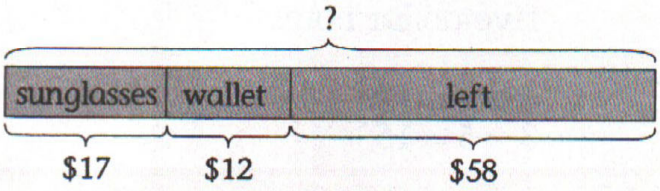
$28 - 24 = 4$

$$\begin{array}{r} 2\ 8 \\ -\ 2\ 4 \\ \hline \ \ 4 \end{array}$$

He had $4 left.

Solution to Question 78

Step 1 : Draw a model

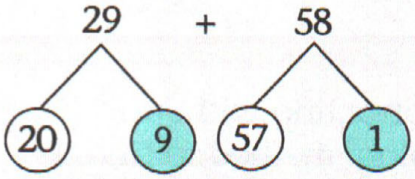


Step 2 : Use 'adding without regrouping' method to find the total cost of the sunglasses and wallet

$17 + 12 = 29$

$$\begin{array}{r} 1\ 7 \\ +\ 1\ 2 \\ \hline 2\ 9 \end{array}$$

Step 3 : Use number bonds to find the amount of money he had at first



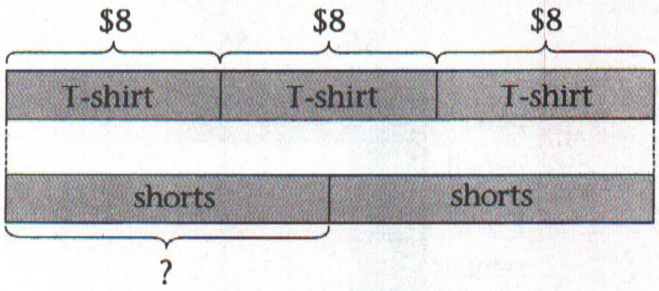
$9 + 1 = 10$
$20 + 57 = 77$
$10 + 77 = 87$

29 + 58 = 87

He had $87 at first.

Solution to Question 79

Step 1 : Draw a model



Step 2 : Multiply to find the total cost of 3 T-shirts

$3 \times 8 = 24$

Step 3 : Divide to find the cost of a pair of shorts

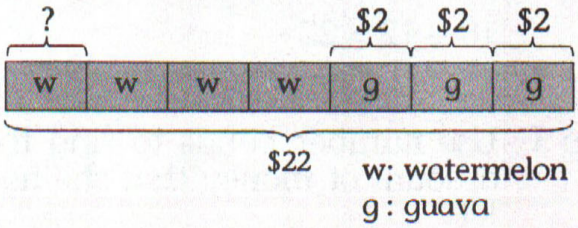
$12 \times 2 = 24$

$24 \div 2 = 12$

The cost of a pair of shorts is $12.

Solution to Question 80

Step 1 : Draw a model



Step 2 : Multiply to find the total cost of 3 guavas

$3 \times 2 = 6$

Step 3 : Use mental calculation to find the cost of 4 watermelons

$22 - 6 = 16$

Step 4 : Divide to find the cost of a watermelon

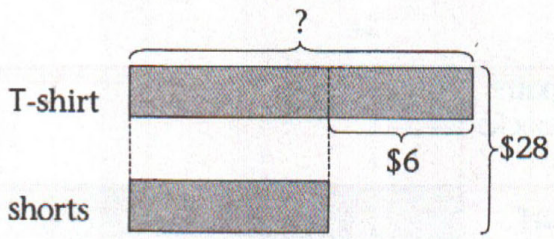
$16 \div 4 = 4$

$4 \times 4 = 16$

The cost of a watermelon is $4.

Solution to Question 81

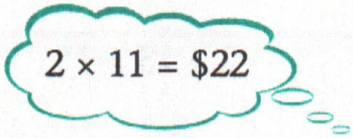
Step 1 : Draw a model



Step 2 : Use mental calculation to find 2 equal parts

$28 - 6 = 22$

Step 3 : Divide to find the cost of the pair of shorts



$22 \div 2 = 11$

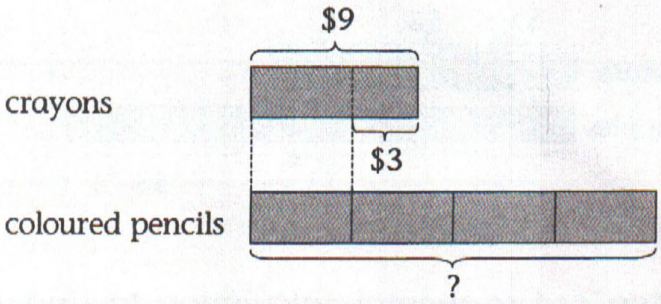
Step 4 : Use mental calculation to find the cost of the T-shirt

$11 + 6 = 17$

The T-shirt cost $17.

Solution to Question 82

Step 1 : Draw a model



Step 2 : Use mental calculation to find the cost of a box of coloured pencils

$9 - 3 = 6$

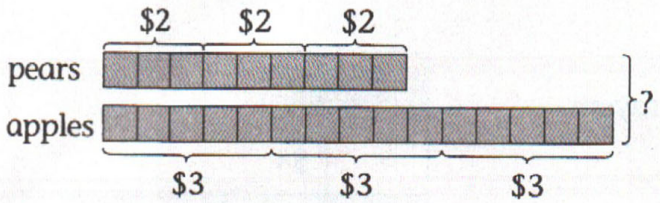
Step 3 : Multiply to find the amount of money she had at first

$4 \times 6 = 24$

Alice had $24 at first.

Solution to Question 83

Step 1 : Draw a model



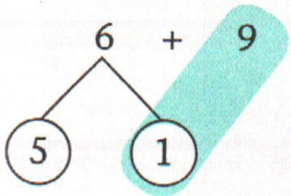
Step 2 : Use mental calculation to find the total cost of 15 apples

$3 + 3 + 3 = 9$

Step 3 : Use mental calculation to find the total cost of 9 pears

$2 + 2 + 2 = 6$

Step 4 : Use number bonds to find the total cost of 9 pears and 15 apples



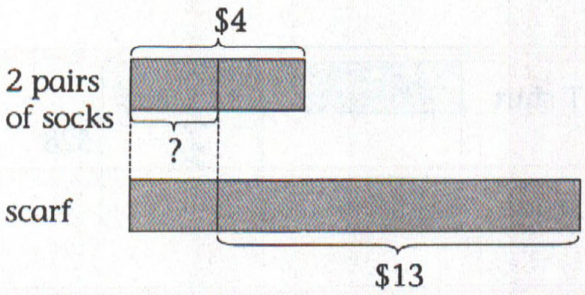
$9 + 1 = 10$
$5 + 10 = 15$

6	+	9	=	15

It would cost $15 to buy 9 pears and 15 apples.

Solution to Question 84

Step 1 : Draw a model



Step 2 : Divide to find the cost of 1 pair of socks

$4 \div 2 = 2$

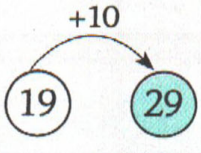
Step 3 : Use 'adding without regrouping' method to find the cost of the scarf

$2 + 13 = 15$

Step 4 : Use 'adding without regrouping' method to find the total amount spent

$15 + 4 = 19$

Step 5 : Use 'counting on' method to find how much Sally had at first

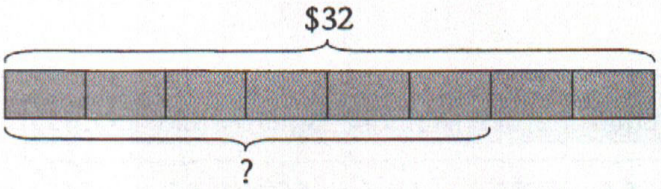


$19 + 10 = 29$

She had $29 at first.

Solution to Question 85

Step 1 : Draw a model



Step 2 : Divide to find the cost of each book

$8 \times 4 = 32$

$32 \div 8 = 4$

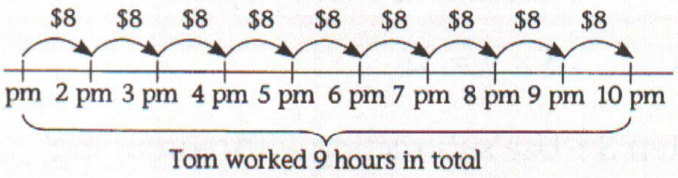
Step 3 : Multiply to find the cost of 6 books

$6 \times 4 = 24$

The cost of 6 such books is $24.

Solution to Question 86

Step 1 : Draw a timeline chart



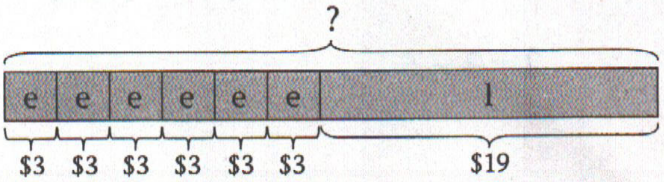
Step 2 : Multiply to find how much he will earn

$9 \times 8 = 72$

He will earn $72 altogether.

Solution to Question 87

Step 1 : Draw a model

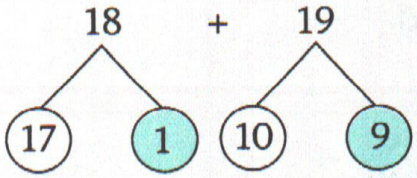


e : exercise book
l : left

Step 2 : Multiply to find the total cost of 6 exercise books

$6 \times 3 = 18$

Step 3 : Use number bonds to find the amount of money she had at first



$1 + 9 = 10$
$17 + 10 = 27$
$10 + 27 = 37$

18	+	19	=	37

She had $37 at first.

Solution to Question 88

Step 1 : Use mental calculation to find the cost of each big dumpling

$2 + 3 = 5$

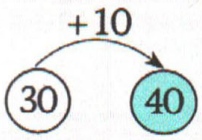
Step 2 : Multiply to find the cost of 5 small dumplings

$5 \times 2 = 10$

Step 3 : Multiply to find the cost of 6 big dumplings

$6 \times 5 = 30$

Step 4 : Use 'counting on' method to find the amount of money Mrs Cox paid

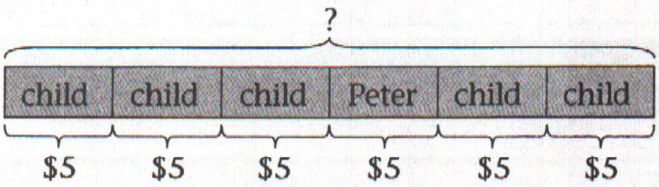


$30 + 10 = 40$

Mrs Cox paid $40.

Solution to Question 89

Step 1 : Draw a model



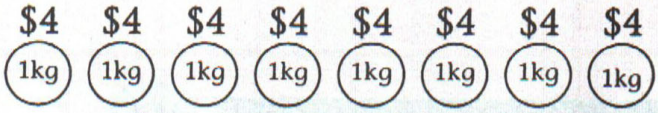
Step 2 : Multiply to find the amount of money that the children had altogether

$6 \times 5 = 30$

The children had $30 altogether.

Solution to Question 90

Step 1 : Draw diagrams



Step 2 : Multiply to find the total amount of money spent

$8 \times 4 = 32$

Step 3 : Use 'subtracting with regrouping' method to find the amount of money left

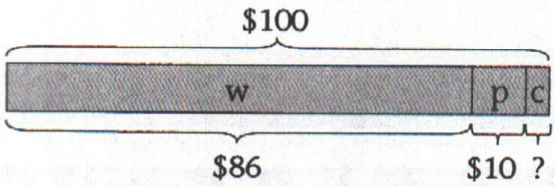
$80 - 32 = 48$

$$\begin{array}{r} {}^{7}\cancel{8}\,{}^{10}\cancel{0} \\ -\ 3\ 2 \\ \hline 4\ 8 \end{array}$$

Ann had $48 left.

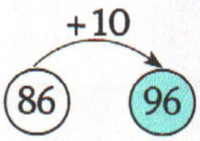
Solution to Question 91

Step 1 : Draw a model



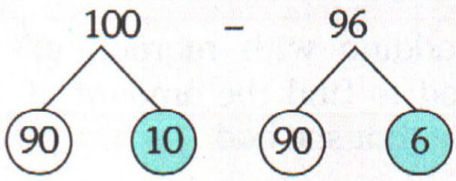
w: watch
p: pen
c: change

Step 2 : Use 'counting on' method to find the total cost of the watch and pen



86 + 10 = 96

Step 3 : Use number bonds to find the amount of change she received



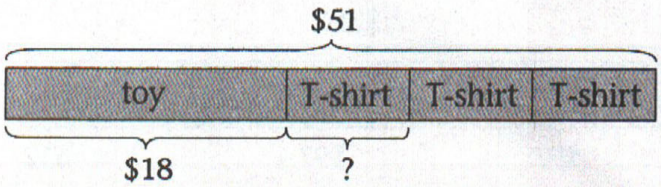
10 – 6 = 4
90 – 90 = 0
4 + 0 = 4

100 − 96 = 4

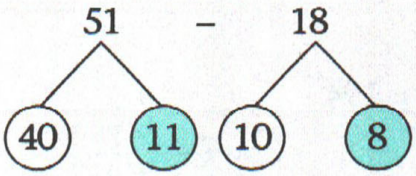
She received $4.

Solution to Question 92

Step 1 : Draw a model



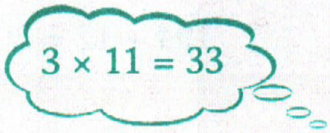
Step 2 : Use number bonds to find the cost of 3 T-shirts



11 – 8 = 3
40 – 10 = 30
3 + 30 = 33

51 − 18 = 33

Step 3 : Divide to find the cost of each T-shirt

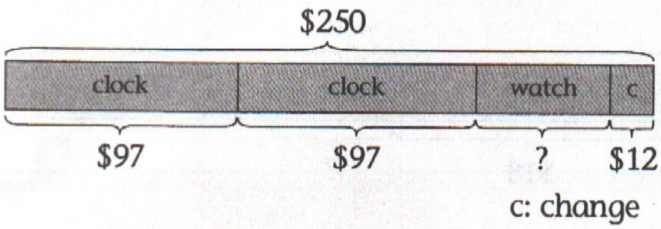


33 ÷ 3 = 11

Each T-shirt cost $11.

Solution to Question 93

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find the total cost of 2 clocks

97 + 97 = 194

$$\begin{array}{r} {\scriptstyle 1} \\ 97 \\ +\ 97 \\ \hline 194 \end{array}$$

Step 3 : Use 'adding with regrouping' method to find the total amount of money for 2 clocks and the change

194 + 12 = 206

$$\begin{array}{r} {\scriptstyle 1} \\ 194 \\ +\ 12 \\ \hline 206 \end{array}$$

Step 4 : Use 'subtracting with regrouping' method to find the cost of the watch

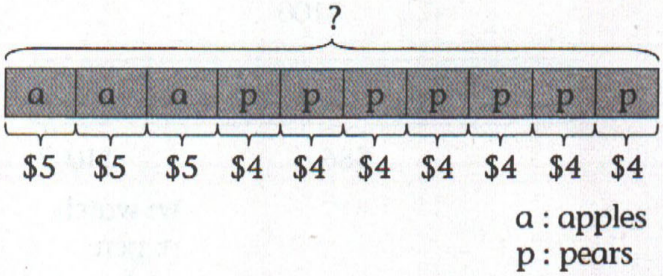
250 – 206 = 44

$$\begin{array}{r} {\scriptstyle 4\ 10} \\ 2\,5\,\cancel{0} \\ -\ 206 \\ \hline 44 \end{array}$$

The cost of the watch was $44.

Solution to Question 94

Step 1 : Draw a model



Step 2 : Multiply to find the total cost of 3 bags of apples

3 × 5 = 15

Step 3 : Multiply to find the total cost of 7 bags of pears

7 × 4 = 28

Step 4 : Use 'adding with regrouping' method to find the amount of money that she had

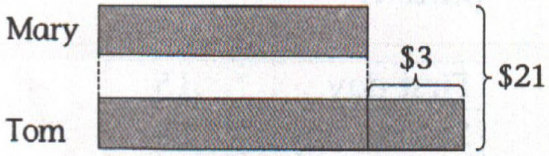
15 + 28 = 43

$$\begin{array}{r} {\scriptstyle 1} \\ 15 \\ +\ 28 \\ \hline 43 \end{array}$$

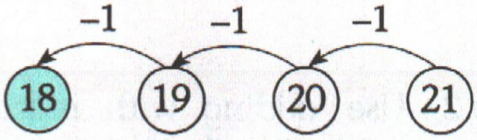
She had $43.

Solution to Question 95

Step 1 : Draw a model

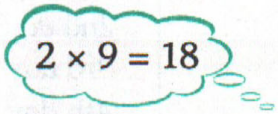


Step 2 : Use 'counting backwards' method to find 2 equal parts



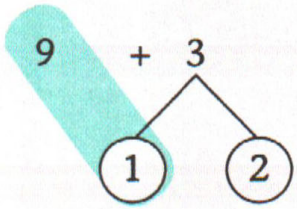
21 – 3 = 18

Step 3 : Divide to find the amount of money Mary paid



18 ÷ 2 = 9

Step 4 : Use number bonds to find the amount of money Tom paid



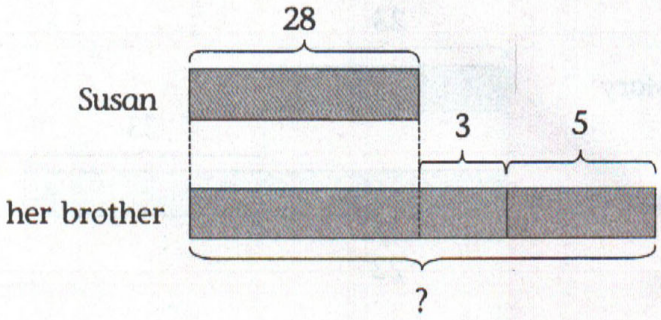
9 + 1 = 10
10 + 2 = 12

9	+	3	=	12

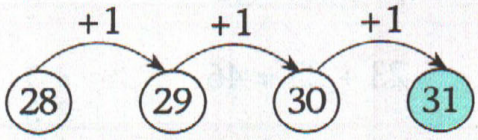
Tom paid $12.

Solution to Question 96

Step 1 : Draw a model



Step 2 : Use 'counting on' method to find her brother's present age



28 + 3 = 31

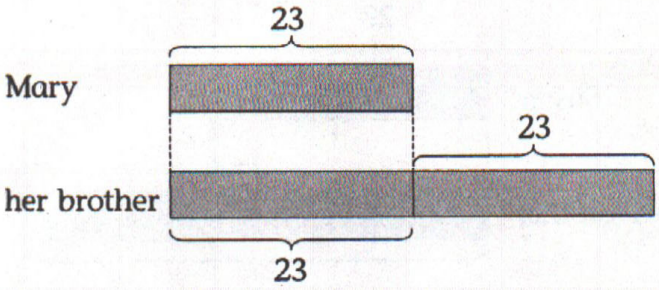
Step 3 : Use mental calculation to find the age of her brother in 5 years' time

31 + 5 = 36

Her brother will be 36 years old in 5 years' time.

Solution to Question 97

Step 1 : Draw a model



Step 2 : Use 'adding without regrouping' method to find her brother's present age

$23 + 23 = 46$

$$\begin{array}{r} 2\ 3 \\ +\ 2\ 3 \\ \hline 4\ 6 \end{array}$$

Step 3 : Use mental calculation to find her brother's age two years ago

$46 - 2 = 44$

Her brother was 44 years old two years ago.

Solution to Question 98

Step 1 : Use a table to plot his reading pattern

First day	15
Second day	20
Third day	25
Fourth day	30
Fifth day	35

Step 2 : Use 'adding with regrouping' method to find how many days he would take to complete the book.

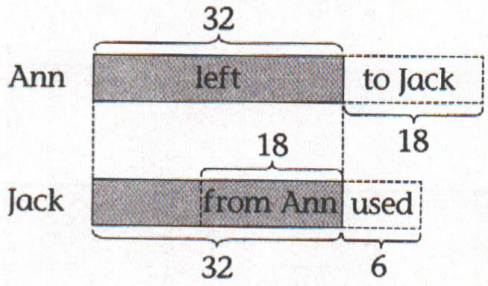
Day	Read	Completed
1st day	15	15
2nd day	20	15 + 20 = 35
3rd day	25	35 + 25 = 60
4th day	30	60 + 30 = 90
5th day	35	90 + 35 = 125

$$\begin{array}{r} 9\ 0 \\ +\ \ 3\ 5 \\ \hline 1\ 2\ 5 \end{array}$$

He will take 5 days to complete the book.

Solution to Question 99

Step 1 : Draw a model



Step 2 : Use 'adding with regrouping' method to find the number of stamps Ann had at first

$32 + 18 = 50$

$$\begin{array}{r} {\scriptstyle 1} \\ 3\ 2 \\ +\ 1\ 8 \\ \hline 5\ 0 \end{array}$$

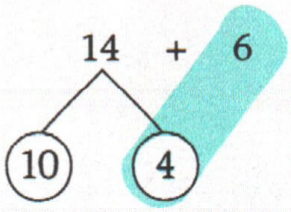
(a) Ann had 50 stamps at first.

Step 3 : Use 'subtracting with regrouping' method to find the number of stamps Jack would have left if he hadn't received 18 stamps from Ann

$32 - 18 = 14$

$$\begin{array}{r} {\scriptstyle 2\ 12} \\ \cancel{3}\ \cancel{2} \\ -\ 1\ 8 \\ \hline 1\ 4 \end{array}$$

Step 4 : Use number bonds to find the number of stamps Jack had at first



$4 + 6 = 10$
$10 + 10 = 20$

14	+	6	=	20

(b) Jack had 20 stamps at first.

Solution to Question 100

Step 1 : Multiply to find the number of eggs tarts that were left

$6 \times 5 = 30$

(a) 30 egg tarts were left.

Step 2 : Multiply to find the number of eggs tarts that were sold

$8 \times 5 = 40$

Step 3 : Use 'adding without regrouping' method to find the total number of egg tarts she baked

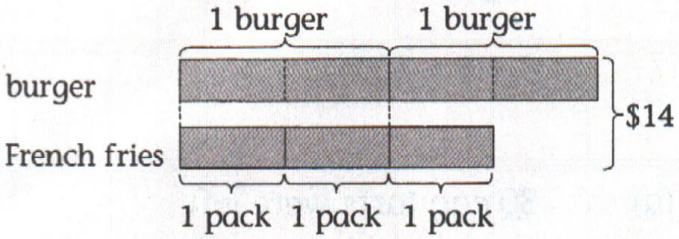
$30 + 40 = 70$

$$\begin{array}{r} 3\ 0 \\ +\ 4\ 0 \\ \hline 7\ 0 \end{array}$$

(b) She baked 70 egg tarts.

Solution to Question 101

Step 1 : Draw a model



Step 2 : Divide to find the cost of 1 pack of French fries

$14 \div 7 = 2$

(a) James would need to pay $2.

Step 3 : Multiply to find the cost of 4 packs of French fries

$2 \times 4 = 8$

Step 4 : Multiply to find the cost of 5 burgers

1 burger : $2 \times 2 = 4$
5 burgers : $4 \times 5 = 20$

Step 5 : Use mental calculation to find the total cost of 4 packs of French fries and 5 burgers

$8 + 20 = 28$

(b) James would need to pay $28.