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Book 3

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101 Must-Know Challenging Maths Word Problems

Book 3

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Name: _____

Class: _____

Preface

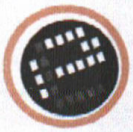
101 Must-Know Challenging Maths Word Problems Book 3 presents word problems that test on important concepts so students can learn to apply general mathematical problem-solving strategies and heuristics confidently.

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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Read about famous mathematicians who contributed to creative mathematics. Develop and hone creative and critical thinking skills through free sample questions.

The Editorial Team

Contents

Question 1

The sum of 3 numbers is 1305. The first number is 360. The second number is twice the first number. What is the third number?

Answer: _____

Question 2

Mary had 129 apples. Tom had 127 more apples than Mary. Linda had 195 more apples than Tom. How many more apples did Linda have than Mary?

Answer: _____

Question 3

Jacob had twice as many marbles as Jerry. Kenny had 3 times as many marbles as Jacob. They had 846 marbles altogether. How many more marbles did Kenny have than Jerry?

Answer: _____

Question 4

There were 5 times as many strawberries as blueberries in a container. Joel ate half of the number of strawberries and 120 strawberries were left in the container. How many strawberries and blueberries were in the container at first?

Answer: _____

Question 5

There were 67 more boys than girls in a field. After 18 children had left the field, there were 373 children left. How many boys were there in the beginning?

Answer: _____

Question 6

Jessica had twice as many sweets as Linda and 25 fewer sweets than Zoe. They had 100 sweets altogether. How many sweets did Zoe have?

Answer: _____

Question 7

315 children were going to the zoo. Each bus could seat 30 children. What was the least number of buses needed to take all the children to the zoo?

Answer: _____

Question 8

Mrs Woods bought 12 packs of sweets and gave them to 26 students. When she gave each of them 4 sweets, she had 4 sweets left. How many sweets were there in each pack?

Answer: _____

Question 9

A shopkeeper sold 254 eggs on Monday and twice as many eggs on Tuesday. He had 150 eggs left. If he had to sell all the eggs and the same number of eggs over 2 days, how many eggs would he need to sell on each day?

Answer: _____

Question 10

A pack of sweets was shared equally among 30 boys. 4 boys decided to give their sweets to the rest. As a result, the rest of the boys received 2 more sweets each. How many sweets were there in the pack at first?

Answer: _____

Question 11

There were 120 black chairs and 3 times as many white chairs in a room. The chairs were arranged in rows of 8. How many rows of chairs were there?

Answer: _____

Question 12

There were 120 yellow marbles and twice as many green marbles. The rest were blue marbles. If there were 74 blue marbles, how many marbles were there altogether?

Answer: _____

Question 13

Mr Gibb had 567 eggs. He sold 143 eggs and packed the remaining eggs equally into 8 boxes. How many eggs were there in each box?

Answer: _____

Question 14

There were 720 orange balloons and twice as many yellow balloons. The rest were green balloons. If there were 2500 balloons altogether, how many green balloons were there?

Answer: _____

Question 15

Samuel had 840 sweets. He had 4 times as many sweets as Cheryl. How many sweets did they have altogether?

Answer: _____

Question 16

There were 250 fiction books and 180 non-fiction books on a bookshelf. There were 3 times as many non-fiction books as scientific books. How many books were there altogether?

Answer: _____

Question 17

The sum of two numbers is 185. One number is 15 more than the other number. What are the two numbers?

Answer: _____

Question 18

Mrs Drew baked 104 apple pies and 216 lemon pies. She packed the two types of pies separately into boxes of 4 each. How many more boxes of lemon pies than apple pies did she have?

Answer: _____

Question 19

At a dog show, there were twice as many brown dogs as white dogs and 3 times as many grey dogs as white dogs. There were 342 dogs altogether. How many grey dogs were there?

Answer: _____

Question 20

A total of 2650 people were on a cruise ship. 1942 of them were adults. If there were 20 more boys than girls, how many girls were there?

Answer: _____

Question 21

When a number is tripled, it is 16 more than 284. What is the number?

Answer: _____

Question 22

There are 10 balloons in a pack. Christine buys 9 such packs. She blows them and ties them into bunches of 15. How many bunches of balloons does she have?

Answer: _____

Question 23

Andrew and Deon sold a total of 116 charity tickets. Andrew sold 3 times as many charity tickets as Deon. How many charity tickets did Andrew sell?

Answer: _____

Question 24

In a car park, there were 198 cars. There were 54 more cars than vans and 36 more motorcycles than vans. How many vehicles were there altogether?

Answer: _____

Question 25

Mrs Campbell baked 7 trays of cookies. There were 48 butter cookies and 21 chocolate chip cookies on each tray. How many more butter cookies than chocolate chip cookies did Mrs Campbell bake?

Answer: _____

Question 26

There were 24 eggs in a carton. Mr Taylor bought 4 cartons and used 18 eggs. He then packed the remaining eggs into boxes of 6. How many boxes of eggs did he have?

Answer: _____

Question 27

At a party, there were 8 groups of 55 children. Another 6 boys and 19 girls joined the party. How many children were there altogether?

Answer: _____

Question 28

Mr Smith sold 152 apples on Monday and 168 apples on Tuesday. He had twice as many apples left as the total number of apples sold. How many apples had he left?

Answer: _____

Question 29

Calvin had 148 stamps. There were 3 times as many local stamps as foreign stamps. His mother gave him another 52 local stamps. How many local stamps did Calvin have in the end?

Answer: _____

Question 30

Ann gave 5 pencils to each of her friends. She then had 2 pencils left. If she had bought 8 boxes of 9 pencils, how many friends did she give the pencils to?

Answer: _____

Question 31

There were 8 charity tickets in a booklet. Linda sold 16 booklets and Jill sold 4 times as many booklets as her. Mike sold half the number of booklets Linda sold. How many charity tickets did they sell altogether?

Answer: _____

Question 32

There were 15 more boys than girls in a class. 8 boys wore spectacles and 5 more girls than boys wore spectacles. If all the girls in the class wore spectacles, how many children were there in the class?

Answer: _____

Question 33

Mr Donald had 210 apples and 220 pears. He sold twice as many apples as pears and had 130 pieces of fruit left. How many apples did he sell?

Answer: _____

Question 34

Zoe had 6 times as many sweets as Malcolm. They had a total of 56 sweets. How many sweets must Zoe give to Malcolm so that they would have the same number of sweets?

Answer: _____

Question 35

Box A contained 250 cards and box B contained half as many cards as box A. Box C contained 3 times as many cards as box B. Find the total number of cards in the three boxes.

Answer: _____

Question 36

Max had 120 red balloons and 210 green balloons. Jeslin had twice and Dawn had 3 times as many balloons as him. How many balloons did they have altogether?

Answer: _____

Question 37

There were 130 marbles in a box. 80 of them were red and the rest were green and yellow. If there were twice as many red marbles as green marbles, how many yellow marbles were there?

Answer: _____

Question 38

There are 5 times as many strawberries in box A than in box B. There are 60 more strawberries in box A than in box B. What is the total number of strawberries in both boxes?

Answer: _____

Question 39

There were 890 pages in a book. Don read 3 times as many pages of the book on Saturday than on Sunday. He then had 6 pages left to read. How many pages did he read on Saturday?

Answer: _____

Question 40

There are some red balloons and blue balloons in a pack. Half of the blue balloons is twice the number of red balloons. There are 60 balloons in the pack. How many blue balloons are there?

Answer: _____

Question 41

Mrs Morris arranged 25 rows of 7 chairs for a school concert. 157 chairs were occupied during the concert. How many chairs were not occupied?

Answer: _____

Question 42

Helen packed 23 boxes of 6 apple pies. She then had 3 apple pies left. How many more boxes of apple pies would she have if she had packed them into boxes of 3 instead?

Answer: _____

Question 43

A clock cost $24 and a watch cost $15 more than the clock. Jeffrey bought 2 clocks and 3 watches. How much money did he spend?

Answer: _____

Question 44

A buffet lunch cost $23.20 for an adult and $7.50 less for a child. Find the total amount of money that 4 adults and 5 children had to pay for the buffet lunch.

Answer: _____

Question 45

Joshua had $150 more than Jason and $70 less than George. The three boys had a total of $790. How much did George have?

Answer: _____

Question 46

Mr Robin spent $570.80 on a camera and $155.90 less on a radio. He then had half as much money left as he had in the beginning. How much did he have at first?

Answer: _____

Question 47

4 apples and 4 oranges cost $3. One orange costs 35 cents. How much more does one apple cost than one orange?

Answer: _____

Question 48

Mrs William earned $3500 a month. She spent $1420 on her children and $1200 on transport and food. She then saved half of her remaining money. How much would she save in 3 months?

Answer: _____

Question 49

Adrian had seven 50-cent coins and some 20-cent coins. He spent $3.70 on a pair of socks and had $1.80 left. How many 20-cent coins did he have at first?

Answer: _____

Question 50

A shirt cost $45.20 and a pair of pants cost $55.90. Sean wanted to buy 2 such shirts and a pair of pants. He was $12.45 short of the total amount. How much money did Sean have?

Answer: _____

Question 51

9 packs of chocolates cost $72 and 3 packs of sweets cost $12. Agnes wanted to buy 4 packs of chocolates and 2 packs of sweets. Find the total amount of money that she had to pay for the items.

Answer: _____

Question 52

7 people paid $80 each for a dinner. The amount collected was $70 short of the total bill. What was the amount of money that each of them should pay?

Answer: _____

Question 53

An adult concert ticket cost $25. A child concert ticket cost $7 less. Mr and Mrs Lynch took some children to the concert. They paid a total of $176. How many children did they take to the concert?

Answer: _____

Question 54

Joanne had $18.95. She bought a book that cost $4.20, a toy that cost $2.90 and a pair of socks. She had $9.05 left. How much did she pay for the pair of socks?

Answer: _____

Question 55

Janet spent half of her salary on food and transport. She then gave $450 to her brother and saved the remaining amount of $380. What was Janet's salary?

Answer: _____

Question 56

2 oranges cost 90 cents and a guava cost 80 cents more than one orange. Jess bought 5 oranges and a guava. She had $15.75 left. How much did she have at first?

Answer: _____

Question 57

Mr Anderson bought two similar watches and had $150 left. He spent 3 times the amount of money he had left on the two watches. How much did each watch cost?

Answer: _____

Question 58

3 similar books cost $186. Betty bought 2 books and had $25 left. How much did she have at first?

Answer: _____

Question 59

George earns $4350 every month. He spends $350 on transport and $120 more on food than transport. He then gives $600 to his wife and saves the rest. How much does he save?

Answer: _____

Question 60

7 similar books cost $105. Benny bought 9 such books and had $14 left. How much did he have at first?

Answer: _____

Question 61

Mr Fox packed 100 oranges equally into boxes of 5 and sold each box for $3. Mr Owen packed 100 oranges equally into boxes of 4 and sold each box for $2. How much more did Mr Fox earn than Mr Owen?

Answer: _____

Question 62

Mrs Scotts saved $564 every month. After half a year, she spent some of her savings. If she had $1205 left, how much did she spend?

Answer: _____

Question 63

A kettle cost $78. A blender cost $22 more than the kettle and a toaster cost half as much as the blender. What was the total cost of the 3 electrical items?

Answer: _____

Question 64

Alex and Bryan shared a cake at a party. Alex ate $\frac{1}{3}$ of the cake while Bryan ate $\frac{1}{9}$ of the cake. What fraction of the cake did they eat altogether?

Answer: _____

Question 65

Kate bought $\frac{1}{2}$ kg of flour to bake a cake. After baking the cake, she had $\frac{1}{8}$ kg of flour left. How much flour did Kate use?

Answer: _____

Question 66

Wendy ate $\frac{1}{5}$ of a pizza and Amanda ate $\frac{1}{2}$ of the same pizza. What fraction of the pizza was left?

Answer: _____

Question 67

George ate $\frac{1}{4}$ of a cake and gave half of the remainder to Amy. What fraction of the cake was left?

Answer: _____

Question 68

Bernice bought some sweets. She gave $\frac{1}{4}$ of them to her cousins and $\frac{1}{8}$ of them to her siblings. If she had 70 sweets left, how many sweets did she buy?

Answer: _____

Question 69

Alvin, Brenda and Carl shared a cake. Alvin ate $\frac{1}{3}$ of the cake and Brenda ate $\frac{1}{2}$ of the cake. Carl ate the rest of the cake. What fraction of the cake did Carl eat?

Answer: _____

Question 70

David ran 1 km 250 m from his house to his school. After that, he cycled 2 km 960 m to the library. What was the total distance he had travelled? (Express your answer in metres.)

Answer: _____

Question 71

Alan bought 3 m 70 cm of string. He used 1 m 90 cm and cut the remaining length into 6 equal strips. He used 4 strips. What was the length of string left in the end?

Answer: _____

Question 72

Mrs Cole bought a cloth that was 3 m 50 cm long. She cut it into 5 equal pieces and used 3 such pieces. Find the length of cloth that she had left. (Express your answer in metres and centimetres.)

Answer: _____

Question 73

Daniel travelled from his home to the beach. He cycled for 2 km 800 m and walked 1 km 950 km less than the distance he cycled. He then took a bus for the rest of the journey. If the distance from his house to the beach was 5 km, what was the distance Daniel travelled by bus? (Express your answer in kilometres and metres.)

Answer: _____

Question 74

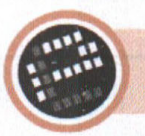
There was 450 g of flour in bag A and 120 g less flour in bag B. Mrs Jackson used 670 g of flour for baking after mixing the two bags together. How much flour was left?

Answer: _____

Question 75

Mr Clement bought 16 sacks of soil. Each sack contained 9 kg of soil. He repacked the soil equally into bags, each weighing 3 kg. How many bags did he pack?

Answer: _____



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Question 76

The mass of a container with a steel ball is 3800 g. When 3 more similar steel balls are added, the mass is 4700 g. What is the mass of the container?

Answer: _____

Question 77

Mrs Cox bought 1 kg of flour. She used 480 g and packed the rest equally into 4 bags. How much flour was there in each bag?

Answer: _____

Question 78

The total mass of Edward and Ben is 93 kg. The total mass of Edward and Philip is 87 kg. Edward's mass is 36 kg. What is the total mass of Ben and Philip?

Answer: _____

Question 79

A bottle contained 1 *l* 250 m*l* of water. A container had 4 *l* 180 m*l* of water. How much more water was there in the container than the bottle? (Express your answer in m*l*.)

Answer: _____

Question 80

A flask contains 600 m*l* of water. A jug contains 150 m*l* more water than the flask. If a bottle contains 250 m*l* of water less than the flask, what is the total volume of water in the flask, jug and the bottle?

Answer: _____

Question 81

Containers A, B and C are half-filled with water. There is 890 m*l* of water in container A, 120 m*l* of water in container B and 345 m*l* of water in container C. If the 3 containers are completely filled, what is the total volume of water that the 3 containers can hold?
(Express your answer in litres and millilitres.)

Answer: _____

Question 82

An empty container was completely filled with water poured from 3 similar jugs. If 5 such jugs contained 400 m*l* of water, how much water was there in the container?

Answer: _____

Question 83

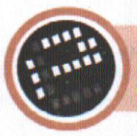
Mabel went for a jog last evening. She started jogging from her home at 6.40 pm and returned home 1 hour and 15 minutes later. What time did she return home?

Answer: _____

Question 84

Leon works in a fast food restaurant. He is paid $7 an hour. He works 5 hours a day on weekdays and 6 hours a day on weekends. If he works from Monday to Sunday, how much will he earn in a week?

Answer: _____



Question 85

Mr Watson is 7 times as old as his son this year. His son was 4 years old last year. How old will his son be when Mr Watson is 60 years old?

Answer: _____

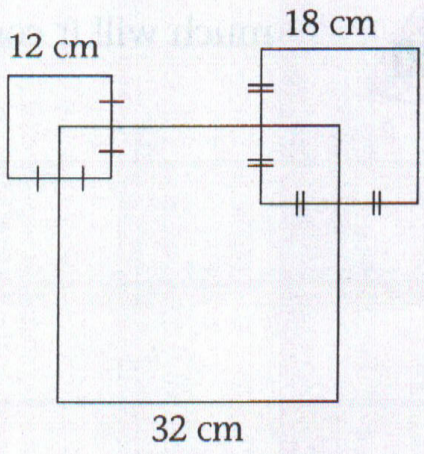
Question 86

Sue is 3 times as old as Cassandra this year. Cassandra will be 20 years old next year. How old was Sue last year?

Answer: _____

Question 87

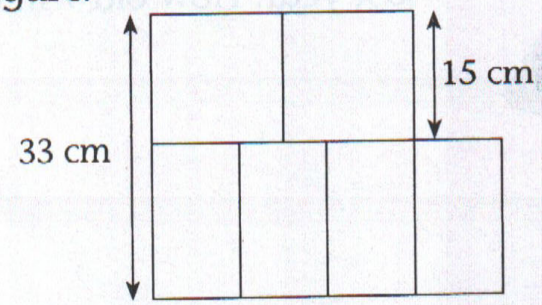
The figure below is made up of 3 squares overlapping each other. Find the perimeter of the figure.



Answer: _____

Question 88

The figure below is made up of 2 similar squares and 4 similar rectangles. Find the perimeter of the figure.



Answer: _____

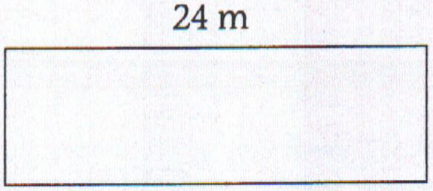
Question 89

The length of a field is twice its breadth. The perimeter of the field is 162 m. What is the length of the field?

Answer: _____

Question 90

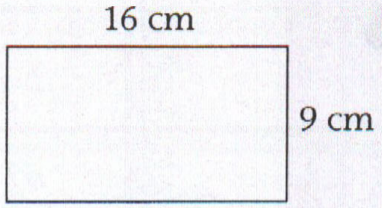
The figure below shows a field. The length of the field is 3 times its breadth. It costs $8 per metre to put a fence around the field. How much will it cost to fence the entire field?



Answer: _____

Question 91

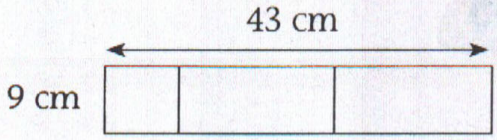
What is the most number of squares with sides of 3 cm that can be cut out from the rectangle shown below?



Answer: _____

Question 92

The figure below is made up of 2 similar rectangles and a square. Find the total area of the 2 rectangles.



Answer: _____

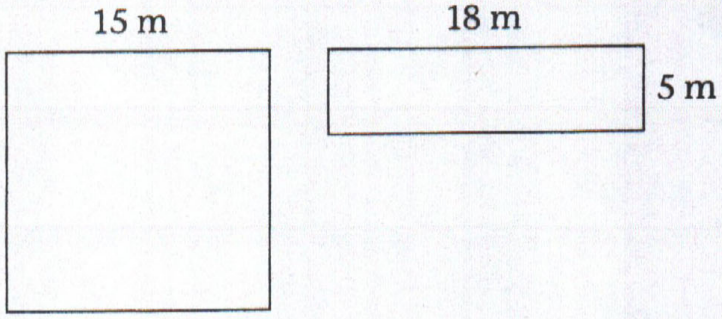
Question 93

A wire is cut and bent to form 5 similar rectangles. The length of each rectangle is twice its breadth. The length of a rectangle is 24 cm. What is the original length of the wire?

Answer: _____

Question 94

A square and a rectangle shown below is formed by using half a piece of wire. What is the length of the whole piece of wire?



Answer: _____

Question 95

A room measuring 12 m by 9 m is to be tiled. If it costs $6 per square metre to tile the room, what is the total cost of tiling the room?

Answer: _____

Question 96

After Jeffrey had given 90 sweets to Adeline, she had 270 sweets and he had 140 sweets.

(a) How many sweets did Jeffrey have at first?

(b) How many more sweets did Jeffrey have than Adeline at first?

Answers: (a) _____

(b) _____

Question 97

Sandra had $45.80. She spent all her money on a photo frame and 2 books. The book cost $3.80 less than the photo frame.

(a) How much was the book?

(b) How much was the photo frame?

Answers: (a) _____

(b) _____

Question 98

210 children were grouped into 3 teams. If there were 4 times as many boys as girls in each team,

(a) how many girls were there altogether?

(b) how many boys were there altogether?

Answers: (a) _____

(b) _____

Question 99

455 cookies are shared equally among 2 girls and 3 boys. Each girl gets twice as many cookies as each boy.

(a) How many cookies do the girls get altogether?

(b) How many cookies do the boys get altogether?

Answers: (a) _____

(b) _____

Question 100

There were 480 apples and oranges in a box. The number of oranges was twice the number of apples in the box.

(a) How many apples were there?

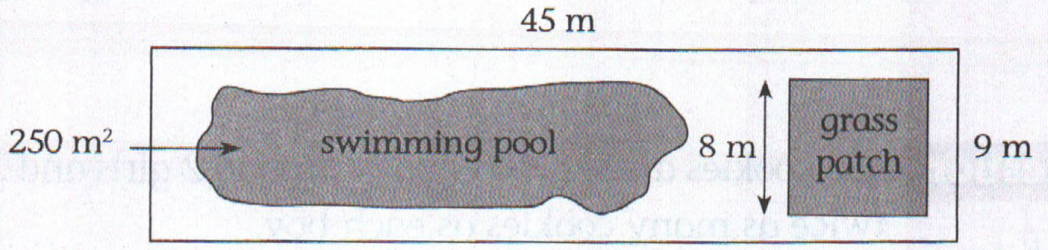
(b) How many oranges were there?

Answers: (a) _____

(b) _____

Question 101

A rectangular plot of land measures 45 m by 9 m. A swimming pool with area of 250 m^2 covers a portion of the land. A square grass patch covers another portion of the land. What is the area of the land that is not covered by the swimming pool and grass patch?



Answer: _____

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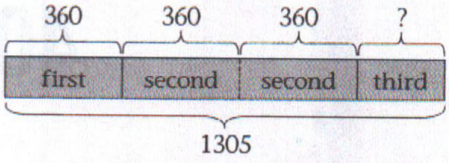
Solutions

Book 3

Solution to Question 1

Step 1 : Draw a model



Step 2 : Find the sum of the first and second numbers

$3 \times 360 = 1080$

$$\begin{array}{r} {\scriptstyle 1}\\ 360\\ \times\ \ 3\\ \hline 1080 \end{array}$$

Step 3 : Find the value of the third number

$1305 - 1080 = 225$

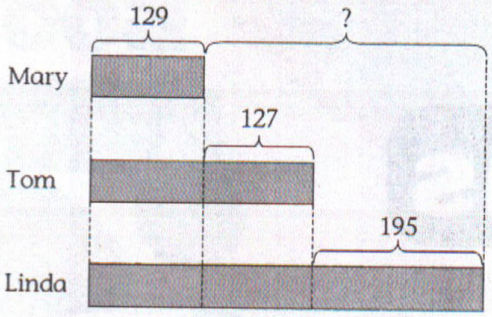
$$\begin{array}{r} {\scriptstyle 2\ 10}\\ 1\ 3\ 0\ 5\\ -\ 1\ 0\ 8\ 0\\ \hline 2\ 2\ 5 \end{array}$$

The third number is 225.

Answer: 225

Solution to Question 2

Step 1 : Draw a model



Step 2 : Find how many more apples Linda had than Mary

$127 + 195 = 322$

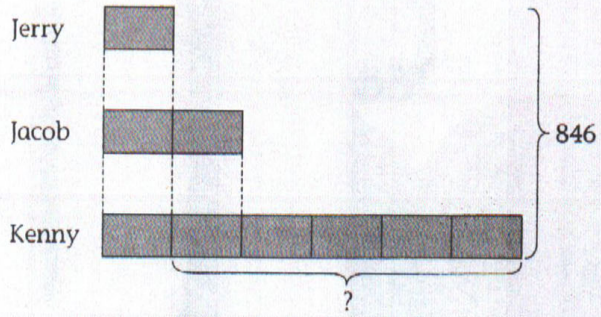
$$\begin{array}{r} {\scriptstyle 1\ 1}\\ 127\\ +\ 195\\ \hline 322 \end{array}$$

Linda had 322 more apples than Mary.

Answer: 322 more apples

Solution to Question 3

Step 1 : Draw a model



Step 2 : Find the number of marbles Jerry had

9 units → 846

1 unit → $846 \div 9 = 94$

$$\begin{array}{r} 94\\ 9\overline{)846}\\ -\ 81\downarrow\\ \hline 36\\ -\ 36\\ \hline 0 \end{array}$$

Step 3 : Compare the number of units in the model to find how many more marbles Kenny had than Jerry

5 units → $5 \times 94 = 470$

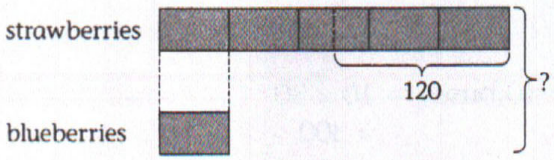
$$\begin{array}{r} {\scriptstyle 2}\\ 94\\ \times\ \ 5\\ \hline 470 \end{array}$$

Kenny had 470 more marbles than Jerry.

Answer: 470 marbles

Solution to Question 4

Step 1 : Draw a model



Step 2 : Find the total number of strawberries

$2 \times 120 = 240$

$$\begin{array}{r} 120 \\ \times \quad 2 \\ \hline 240 \end{array}$$

Step 3 : Find the total number of blueberries

5 units → 240

1 unit → $240 \div 5 = 48$

$$\begin{array}{r} 48 \\ 5\overline{)240} \\ -20\downarrow \\ \hline 40 \\ -40 \\ \hline 0 \end{array}$$

Step 4 : Find the total number of strawberries and blueberries

$48 + 240 = 288$

288 strawberries and blueberries were in the container at first.

Answer: 288 strawberries and blueberries

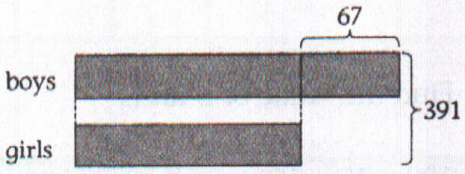
Solution to Question 5

Step 1 : Find the total number of children in the field in the beginning

$373 + 18 = 391$

$$\begin{array}{r} {\scriptstyle 1} \\ 373 \\ +\ 18 \\ \hline 391 \end{array}$$

Step 2 : Draw a model and find the value of 1 unit



2 units → $391 - 67 = 324$

1 unit → $324 \div 2 = 162$

$$\begin{array}{r} {\scriptstyle 8\ 11} \\ 3\,\not{9}\,\not{1} \\ -\ 67 \\ \hline 324 \end{array}$$

$$\begin{array}{r} 162 \\ 2\overline{)324} \\ -2\downarrow \\ \hline 12 \\ -12\downarrow \\ \hline 04 \\ -\ 4 \\ \hline 0 \end{array}$$

Step 3 : Find the number of boys in the beginning

boys → 1 unit + 67

$162 + 67 = 229$

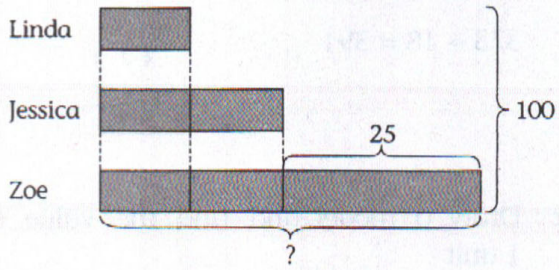
$$\begin{array}{r} {\scriptstyle 1} \\ 162 \\ +\ 67 \\ \hline 229 \end{array}$$

There were 229 boys in the beginning.

Answer: 229 boys

Solution to Question 6

Step 1 : Draw a model



Step 2 : Find the value of 5 units

$100 - 25 = 75$

$$\begin{array}{r} {}^{9}\,{}^{10} \\ 1\,\not{0}\,\not{0} \\ -\quad 2\,5 \\ \hline 7\,5 \end{array}$$

Step 3 : Find the number of sweets Linda had

5 units → 75

1 unit → $75 \div 5 = 15$

$$\begin{array}{r} 1\,5 \\ 5\overline{)7\,5} \\ -\,5\,\downarrow \\ \hline 2\,5 \\ -\,2\,5 \\ \hline 0 \end{array}$$

Step 4 : Find the number of sweets Zoe had

Zoe → 2 units + 25

2 units → $2 \times 15 = 30$

$30 + 25 = 55$

Zoe had 55 sweets.

Answer: 55 sweets

Solution to Question 7

Step 1 : Find the number of buses required for 300 children

1 bus → 30

10 buses → 10×30
$= 300$

$315 - 300 = 15$ children left

One more bus was needed to take the remaining 15 children.

Step 2 : Find the least number of buses required

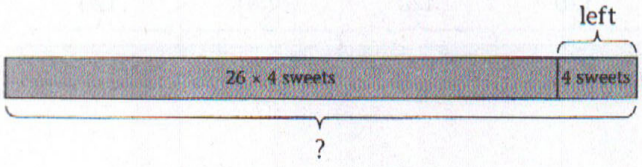
$10 + 1 = 11$

The least number of buses needed to take all the children to the zoo was 11.

Answer: 11 buses

Solution to Question 8

Step 1 : Draw a model



Step 2 : Find the number of sweets she gave to her students

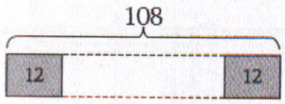
$26 \times 4 = 104$

$$\begin{array}{r} {\scriptstyle 2} \\ 2\ 6 \\ \times\quad 4 \\ \hline 1\ 0\ 4 \end{array}$$

Step 3 : Find the total number of sweets she bought (12 packs)

$104 + 4 = 108$

Step 4 : Find the number of sweets in each pack



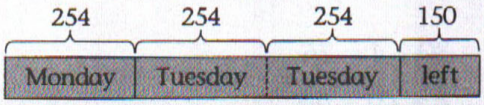
$108 \div 12 = 9$

There were 9 sweets in each pack.

Answer: 9 sweets

Solution to Question 9

Step 1 : Draw a model



Step 2 : Find the total number of eggs he had sold

$3 \times 254 = 762$

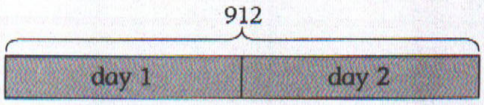
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 2\ 5\ 4 \\ \times\quad 3 \\ \hline 7\ 6\ 2 \end{array}$$

Step 3 : Find the total number of eggs he had at first

$762 + 150 = 912$

$$\begin{array}{r} {\scriptstyle 1} \\ 7\ 6\ 2 \\ +\ 1\ 5\ 0 \\ \hline 9\ 1\ 2 \end{array}$$

Step 4 : Find the number of eggs he would need to sell each day



$912 \div 2 = 456$

$$\begin{array}{r} 4\ 5\ 6 \\ 2\overline{)\,9\ 1\ 2} \\ -\ 8\ \downarrow \\ \hline 1\ 1 \\ -\ 1\ 0\ \downarrow \\ \hline 1\ 2 \\ -\ 1\ 2 \\ \hline 0 \end{array}$$

He would need to sell 456 eggs each day.

Answer: 456 eggs

Solution to Question 10

Step 1 : Find the number of sweets given to rest of the boys

$30 - 4 = 26$

$2 \times 26 = 52$

$$\begin{array}{r} {\scriptstyle 1} \\ 26 \\ \times \quad 2 \\ \hline 52 \end{array}$$

Step 2 : Find the number of sweets each of the 4 boys had given away

$52 \div 4 = 13$

$$\begin{array}{r} 13 \\ 4\overline{)52} \\ -4\downarrow \\ \hline 12 \\ -12 \\ \hline 0 \end{array}$$

Step 3 : Find the total number of sweets in the pack at first

$13 \times 30 = 13 \times 10 \times 3$

$= 130 \times 3$

$= 390$

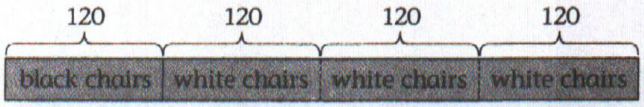
$$\begin{array}{r} 130 \\ \times \quad 3 \\ \hline 390 \end{array}$$

There were 390 sweets in the pack at first.

Answer: 390 sweets

Solution to Question 11

Step 1 : Draw a model



Step 2 : Find the total number of chairs

$4 \times 120 = 480$

$$\begin{array}{r} 120 \\ \times \quad 4 \\ \hline 480 \end{array}$$

Step 3 : Find the number of rows of chairs

$480 \div 8 = 60$

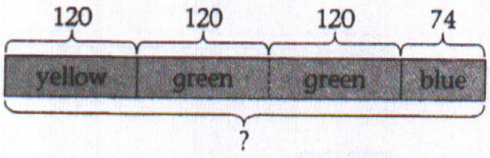
$$\begin{array}{r} 60 \\ 8\overline{)480} \\ -48\downarrow \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

There were 60 rows of chairs.

Answer: 60 rows of chairs

Solution to Question 12

Step 1 : Draw a model



Step 2 : Find the number of green and yellow marbles

$3 \times 120 = 360$

$$\begin{array}{r} 120 \\ \times \quad 3 \\ \hline 360 \end{array}$$

Step 3 : Find the total number of marbles

$360 + 74 = 434$

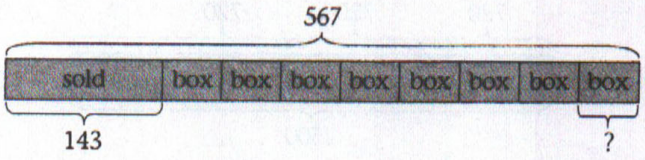
$$\begin{array}{r} {\scriptstyle 1} \\ 360 \\ + \quad 74 \\ \hline 434 \end{array}$$

There were 434 marbles altogether.

Answer: 434 marbles

Solution to Question 13

Step 1 : Draw a model



Step 2 : Find the total number of eggs he packed into boxes

$567 - 143 = 424$

$$\begin{array}{r} 567 \\ - \, 143 \\ \hline 424 \end{array}$$

Step 3 : Find the number of eggs in each box

$424 \div 8 = 53$

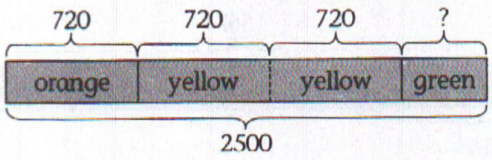
$$\begin{array}{r} 53 \\ 8\overline{)424} \\ -\,40\downarrow \\ \hline 24 \\ -\,24 \\ \hline 0 \end{array}$$

There were 53 eggs in each box.

Answer: 53 eggs

Solution to Question 14

Step 1 : Draw a model



Step 2 : Find the number of orange and yellow balloons

$3 \times 720 = 2160$

$$\begin{array}{r} 720 \\ \times \quad 3 \\ \hline 2160 \end{array}$$

Step 3 : Find the number of green balloons

$2500 - 2160 = 340$

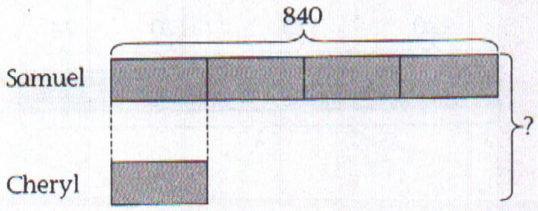
$$\begin{array}{r} {\scriptstyle 4\ 10} \\ 2\,\not{5}\,\not{0}\,0 \\ -\,2160 \\ \hline 340 \end{array}$$

There were 340 green balloons.

Answer: 340 green balloons

Solution to Question 15

Step 1 : Draw a model



Step 2 : Find the number of sweets Cheryl had

4 units → 840

1 unit → $840 \div 4 = 210$

$$\begin{array}{r} 210 \\ 4\overline{)840} \\ -\,8\downarrow \\ \hline 04 \\ -\,4\downarrow \\ \hline 00 \\ -\,0 \\ \hline 0 \end{array}$$

Step 3 : Find the number of sweets they had altogether

$840 + 210 = 1050$

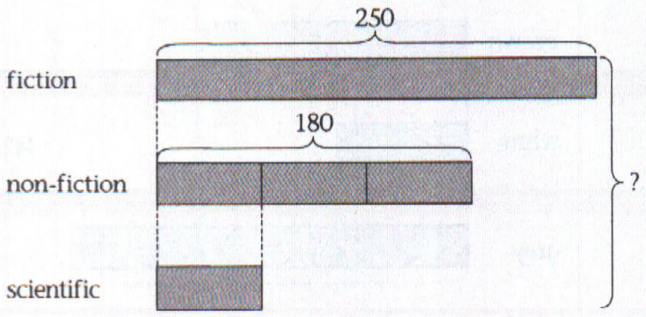
$$\begin{array}{r} 840 \\ +\,210 \\ \hline 1050 \end{array}$$

They had 1050 sweets altogether.

Answer: 1050 sweets

Solution to Question 16

Step 1 : Draw a model



Step 2 : Find the number of scientific books

3 units → 180

1 unit → 180 ÷ 3 = 60

$$\begin{array}{r} 60 \\ 3\overline{)180} \\ -18\downarrow \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

Step 3 : Find the total number of books

250 + 180 = 430

$$\begin{array}{r} {\scriptstyle 1} \\ 250 \\ +180 \\ \hline 430 \end{array}$$

430 + 60 = 490

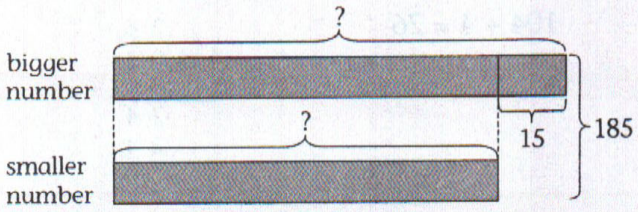
$$\begin{array}{r} 430 \\ +\ 60 \\ \hline 490 \end{array}$$

There were 490 books altogether.

Answer: 490 books

Solution to Question 17

Step 1 : Draw a model



Step 2 : Find the value of 1 unit (smaller number)

2 units → 185 − 15 = 170

$$\begin{array}{r} 185 \\ -\ 15 \\ \hline 170 \end{array}$$

1 unit → 170 ÷ 2 = 85

$$\begin{array}{r} 85 \\ 2\overline{)170} \\ -16\downarrow \\ \hline 10 \\ -10 \\ \hline 0 \end{array}$$

Step 3 : Find the bigger number

85 + 15 = 100

$$\begin{array}{r} {\scriptstyle 1} \\ 85 \\ +15 \\ \hline 100 \end{array}$$

The two numbers are 85 and 100.

Answer: 85 and 100

Solution to Question 18

Step 1 : Find the number of boxes of apple pies

$104 \div 4 = 26$

$$\begin{array}{r} 26 \\ 4\overline{)104} \\ -\ 8\downarrow \\ \hline 24 \\ -\ 24 \\ \hline 0 \end{array}$$

Step 2 : Find the number of boxes of lemon pies

$216 \div 4 = 54$

$$\begin{array}{r} 54 \\ 4\overline{)216} \\ -\ 20\downarrow \\ \hline 16 \\ -\ 16 \\ \hline 0 \end{array}$$

Step 3 : Find the difference between the number of boxes of lemon pies and apple pies

$54 - 26 = 28$

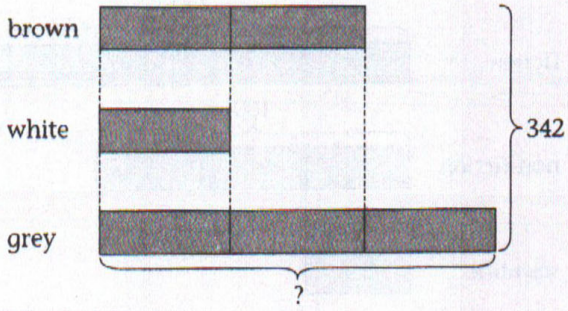
$$\begin{array}{r} {\scriptstyle 4\ 14} \\ 5\ \not{4} \\ -\ 2\ 6 \\ \hline 2\ 8 \end{array}$$

She had 28 more boxes of lemon pies than apple pies.

Answer: 28 more boxes

Solution to Question 19

Step 1 : Draw a model



Step 2 : Find the number of white dogs

6 units → 342

1 unit → $342 \div 6 = 57$

$$\begin{array}{r} 57 \\ 6\overline{)342} \\ -\ 30\downarrow \\ \hline 42 \\ -\ 42 \\ \hline 0 \end{array}$$

Step 3 : Find the number of grey dogs

3 units → $3 \times 57 = 171$

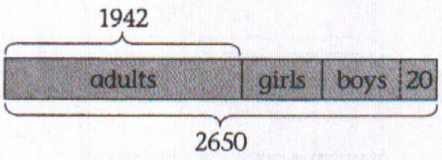
$$\begin{array}{r} {\scriptstyle 2} \\ 57 \\ \times\ \ 3 \\ \hline 171 \end{array}$$

There were 171 grey dogs.

Answer: 171 grey dogs

Solution to Question 20

Step 1 : Draw a model



Step 2 : Find the number of children

$2650 - 1942 = 708$

$$\begin{array}{r} {\scriptstyle 1\ 16\ 4\ 10} \\ 2\ \not{6}\ \not{5}\ \not{0} \\ -\ 1\ 9\ 4\ 2 \\ \hline 7\ 0\ 8 \end{array}$$

Step 3 : Find the value of 2 units

2 units → $708 - 20 = 688$

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

Step 4 : Find the number of girls

1 unit → $688 \div 2 = 344$

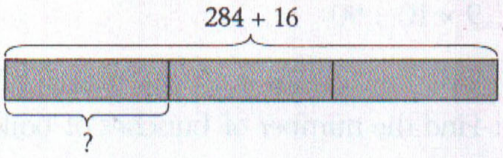
$$\begin{array}{r} 3\ 4\ 4 \\ 2\overline{)6\ 8\ 8} \\ -\ 6\downarrow\ \ \vert \\ \hline 0\ 8\ \ \vert \\ -\ 8\downarrow \\ \hline 0\ 8 \\ -\ 8 \\ \hline 0 \end{array}$$

There were 344 girls.

Answer: 344 girls

Solution to Question 21

Step 1 : Draw a model



Step 2 : Find the number when it is tripled

$284 + 16 = 300$

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

Step 3 : Find the number

$300 \div 3 = 100$

$$\begin{array}{r} 1\ 0\ 0 \\ 3\overline{)3\ 0\ 0} \\ -\ 3\downarrow\ \ \vert \\ \hline 0\ \ \vert \\ -\ 0\downarrow \\ \hline 0\ 0 \\ -\ 0 \\ \hline 0 \end{array}$$

The number is 100.

Answer: 100

Solution to Question 22

Step 1 : Find the total number of balloons

$9 \times 10 = 90$

Step 2 : Find the number of bunches of balloons

$15 \times 6 = 90$

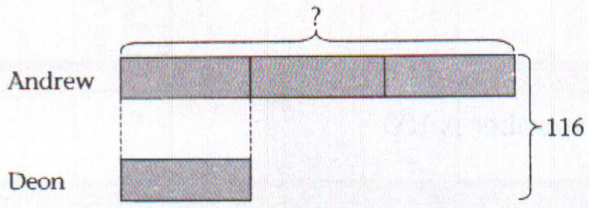
$90 \div 15 = 6$

She has 6 bunches of balloons.

Answer: 6 bunches of balloons

Solution to Question 23

Step 1 : Draw a model



Step 2 : Find the number of charity tickets Deon sold

4 units → 116

1 unit → $116 \div 4 = 29$

$$\begin{array}{r} 29 \\ 4\overline{)116} \\ -\ 8\downarrow \\ \hline 36 \\ -\ 36 \\ \hline 0 \end{array}$$

Step 3 : Find the number of charity tickets Andrew sold

3 units → $3 \times 29 = 87$

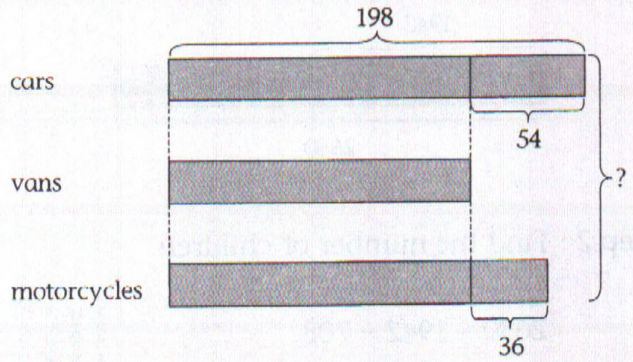
$$\begin{array}{r} {\scriptstyle 2}\ 29 \\ \times\ \ 3 \\ \hline 87 \end{array}$$

Andrew sold 87 charity tickets.

Answer: 87 charity tickets

Solution to Question 24

Step 1 : Draw a model



Step 2 : Find the number of vans

$198 - 54 = 144$

$$\begin{array}{r} 198 \\ -\ \ 54 \\ \hline 144 \end{array}$$

Step 3 : Find the number of motorcycles

$144 + 36 = 180$

$$\begin{array}{r} {\scriptstyle 1} \\ 144 \\ +\ \ 36 \\ \hline 180 \end{array}$$

Step 4 : Find the total number of vehicles

$198 + 144 = 342$

$342 + 180 = 522$

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 198 \\ +\ 144 \\ \hline 342 \end{array} \qquad \begin{array}{r} {\scriptstyle 1} \\ 342 \\ +\ 180 \\ \hline 522 \end{array}$$

There were 522 vehicles altogether.

Answer: 522 vehicles

Solution to Question 25

Step 1 : Find how many more butter cookies than chocolate chip cookies there are on each tray

$48 - 21 = 27$

$$\begin{array}{r} 48 \\ -\ 21 \\ \hline 27 \end{array}$$

Step 2 : Find how many more butter cookies than chocolate chip cookies there are on 7 trays

$7 \times 27 = 189$

$$\begin{array}{r} {\scriptstyle 4} \\ 27 \\ \times\ \ 7 \\ \hline 189 \end{array}$$

Mrs Campbell baked 189 more butter cookies than chocolate chip cookies.

Answer: 189 more butter cookies

Solution to Question 26

Step 1 : Find the total number of eggs he bought

$4 \times 24 = 96$

$$\begin{array}{r} {\scriptstyle 1} \\ 24 \\ \times\ \ 4 \\ \hline 96 \end{array}$$

Step 2 : Find the number of remaining eggs

$96 - 18 = 78$

$$\begin{array}{r} {\scriptstyle 8\ 16} \\ 9\not{6} \\ -\ 18 \\ \hline 78 \end{array}$$

Step 3 : Find the number of boxes of eggs he had

$78 \div 6 = 13$

$$\begin{array}{r} 13 \\ 6\overline{)78} \\ -\ 6\downarrow \\ \hline 18 \\ -\ 18 \\ \hline 0 \end{array}$$

He had 13 boxes of eggs.

Answer: 13 boxes of eggs

Solution to Question 27

Step 1 : Find the total number of children in the 8 groups

$8 \times 55 = 440$

$$\begin{array}{r} {\scriptstyle 4} \\ 55 \\ \times\ \ 8 \\ \hline 440 \end{array}$$

Step 2 : Find the total number of children

$6 + 19 = 25$

$440 + 25 = 465$

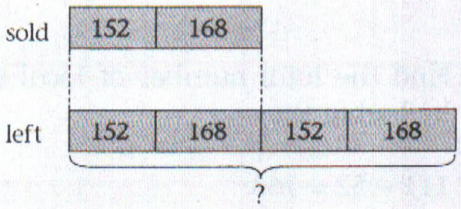
$$\begin{array}{r} 440 \\ +\ \ 25 \\ \hline 465 \end{array}$$

There were 465 children altogether.

Answer: 465 children

Solution to Question 28

Step 1 : Draw a model



Step 2 : Find the total number of apples sold on both days

$152 + 168 = 320$

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 152 \\ +\ 168 \\ \hline 320 \end{array}$$

Step 3 : Find the number of apples he had left

$2 \times 320 = 640$

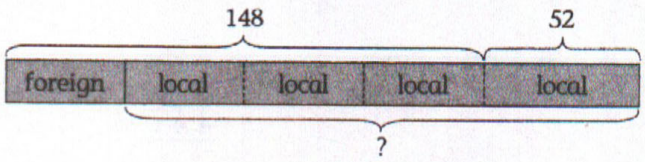
$$\begin{array}{r} 320 \\ \times\ \ 2 \\ \hline 640 \end{array}$$

He had 640 apples left.

Answer: 640 apples

Solution to Question 29

Step 1 : Draw a model



Step 2 : Find the number of foreign stamps

4 units → 148

1 unit → 148 ÷ 4 = 37

$$\begin{array}{r} 37 \\ 4\overline{)148} \\ -12\downarrow \\ \hline 28 \\ -28 \\ \hline 0 \end{array}$$

Step 3 : Find the number of local stamps he had at first

3 × 37 = 111

$$\begin{array}{r} {\scriptstyle 2} \\ 37 \\ \times\ \ 3 \\ \hline 111 \end{array}$$

Step 4 : Find the total number of local stamps he had in the end

111 + 52 = 163

$$\begin{array}{r} 111 \\ +\ \ 52 \\ \hline 163 \end{array}$$

Calvin had 163 local stamps in the end.

Answer: 163 local stamps

Solution to Question 30

Step 1 : Find the total number of pencils

8 × 9 = 72

Step 2 : Find the number of pencils she had given to her friends

72 – 2 = 70

Step 3 : Find the number of friends who were given the pencils

70 ÷ 5 = 14

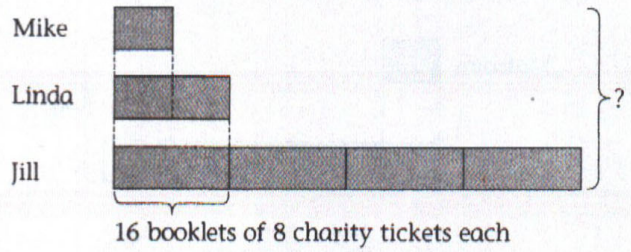
$$\begin{array}{r} 14 \\ 5\overline{)70} \\ -5\downarrow \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

She gave the pencils to 14 friends.

Answer: 14 friends

Solution to Question 31

Step 1 : Draw a model



Step 2 : Find the number of booklets Mike had sold

$2 \times 8 = 16$

$16 \div 2 = 8$

Step 3 : Find the number of booklets Linda and Jill sold

$5 \times 16 = 80$

$$\begin{array}{r} {\scriptstyle 3}\,16 \\ \times\ \ 5 \\ \hline 80 \end{array}$$

Step 4 : Find the total number of booklets they had sold

$80 + 8 = 88$

Step 5 : Find the total number of charity tickets they had sold

$8 \times 88 = 704$

$$\begin{array}{r} {\scriptstyle 6}\,88 \\ \times\ \ 8 \\ \hline 704 \end{array}$$

They sold 704 charity tickets altogether.

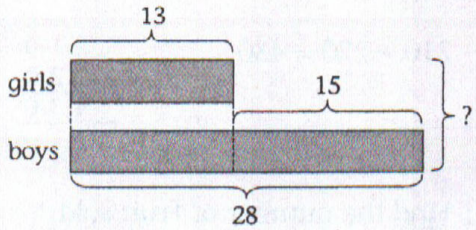
Answer: 704 charity tickets

Solution to Question 32

Step 1 : Find the total number of girls in the class

$8 + 5 = 13$

Step 2 : Draw a model and find the total number of boys in the class



$13 + 15 = 28$

Step 3 : Find the number of children in the class

$13 + 28 = 41$

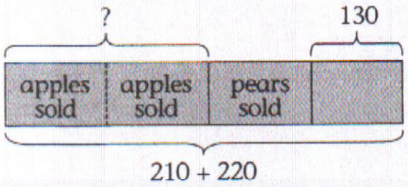
$$\begin{array}{r} {\scriptstyle 1}\,13 \\ +\ 28 \\ \hline 41 \end{array}$$

There were 41 children in the class.

Answer: 41 children

Solution to Question 33

Step 1 : Draw a model



Step 2 : Find the total number of fruit

$210 + 220 = 430$

$$\begin{array}{r} 2\,1\,0 \\ +\,2\,2\,0 \\ \hline 4\,3\,0 \end{array}$$

Step 3 : Find the number of fruit sold

$430 - 130 = 300$

$$\begin{array}{r} 4\,3\,0 \\ -\,1\,3\,0 \\ \hline 3\,0\,0 \end{array}$$

Step 4 : Find the number of pears sold

$300 \div 3 = 100$

$$\begin{array}{r} 1\,0\,0 \\ 3\overline{)\,3\,0\,0} \\ -\,3\downarrow \\ \hline 0\,0 \\ -\,0\downarrow \\ \hline 0\,0 \\ -\,0 \\ \hline 0 \end{array}$$

Step 5 : Find the number of apples sold

$2 \times 100 = 200$

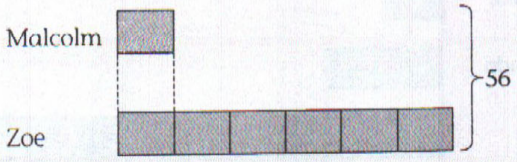
$$\begin{array}{r} 1\,0\,0 \\ \times\quad 2 \\ \hline 2\,0\,0 \end{array}$$

He sold 200 apples.

Answer: 200 apples

Solution to Question 34

Step 1 : Draw a model and find the number of sweets Malcolm had



$56 \div 7 = 8$

$7 \times 8 = 56$

Step 2 : Find the number of sweets each of them should have in order to have the same number of sweets

$56 \div 2 = 28$

$$\begin{array}{r} 2\,8 \\ 2\overline{)\,5\,6} \\ -\,4\downarrow \\ \hline 1\,6 \\ -\,1\,6 \\ \hline 0 \end{array}$$

Step 3 : Find the number of sweets Zoe must give to Malcolm

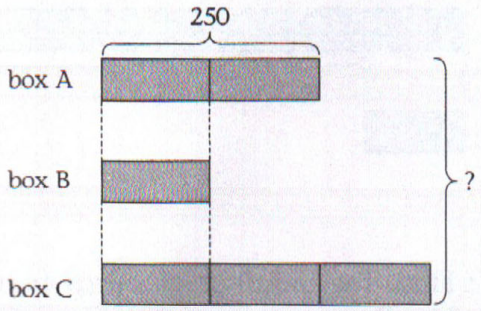
$28 - 8 = 20$

Zoe must give 20 sweets to Malcolm so that they would have the same number of sweets.

Answer: 20 sweets

Solution to Question 35

Step 1 : Draw a model



Step 2 : Find the number of cards in box B

2 units → 250

1 unit → 250 ÷ 2 = 125

$$\begin{array}{r} 125 \\ 2\overline{)250} \\ -2\downarrow \\ \hline 05 \\ -4\downarrow \\ \hline 10 \\ -10 \\ \hline 0 \end{array}$$

Step 3 : Find the total number of cards

6 units → 6 × 125 = 750

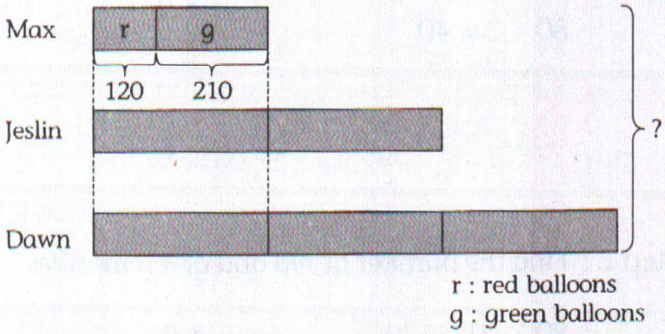
$$\begin{array}{r} {\scriptstyle 1\ 3} \\ 125 \\ \times\ \ 6 \\ \hline 750 \end{array}$$

The total number of cards in the three boxes was 750.

Answer: 750 cards

Solution to Question 36

Step 1 : Draw a model



r : red balloons
g : green balloons

Step 2 : Find the number of balloons Max had

120 + 210 = 330

$$\begin{array}{r} 120 \\ +\ 210 \\ \hline 330 \end{array}$$

Step 3 : Find the total number of balloons they had

1 unit → 330

6 units → 6 × 330 = 1980

$$\begin{array}{r} {\scriptstyle 1} \\ 330 \\ \times\ \ 6 \\ \hline 1980 \end{array}$$

They had 1980 balloons altogether.

Answer: 1980 balloons

Solution to Question 37

Step 1 : Find the number of green marbles

$80 \div 2 = 40$

$$\begin{array}{r} 40 \\ 2\overline{)80} \\ -\ 8\downarrow \\ \hline 00 \\ -\ 0 \\ \hline 0 \end{array}$$

Step 2 : Find the number of red and green marbles

$80 + 40 = 120$

$$\begin{array}{r} 80 \\ +\ 40 \\ \hline 120 \end{array}$$

Step 3 : Find the number of yellow marbles

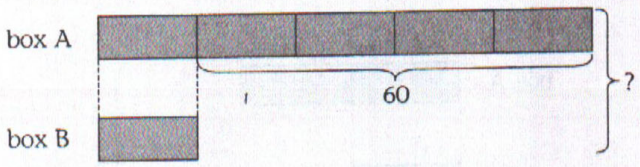
$130 - 120 = 10$

There were 10 yellow marbles.

Answer: 10 yellow marbles

Solution to Question 38

Step 1 : Draw a model



Step 2 : Find the number of strawberries in box B

4 units → 60

1 unit → $60 \div 4 = 15$

$$\begin{array}{r} 15 \\ 4\overline{)60} \\ -\ 4\downarrow \\ \hline 20 \\ -\ 20 \\ \hline 0 \end{array}$$

Step 3 : Find the total number of strawberries

6 units → $6 \times 15 = 90$

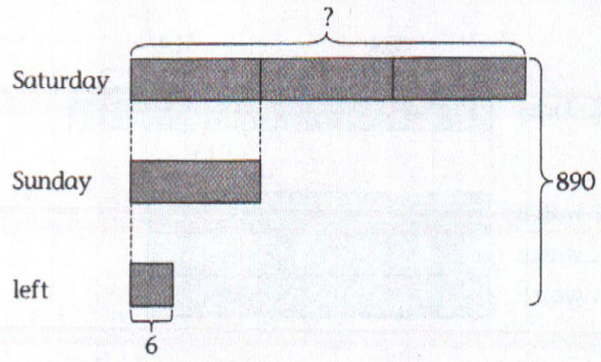
$$\begin{array}{r} {\scriptstyle 3} \\ 15 \\ \times\ \ 6 \\ \hline 90 \end{array}$$

The total number of strawberries in both boxes is 90.

Answer: 90 strawberries

Solution to Question 39

Step 1 : Draw a model



Step 2 : Find the total number of pages he read on Saturday and Sunday

$890 - 6 = 884$

$$\begin{array}{r} {}^{8}\cancel{8}\,{}^{10}\cancel{9}\,\cancel{0} \\ -\quad 6 \\ \hline 8\,8\,4 \end{array}$$

Step 3 : Find the number of pages he read on Sunday

4 units → 884

1 unit → $884 \div 4 = 221$

$$\begin{array}{r} 2\,2\,1 \\ 4\overline{)\,8\,8\,4} \\ -\,8\downarrow \\ \hline 0\,8 \\ -\,8\downarrow \\ \hline 4 \\ -\,4 \\ \hline 0 \end{array}$$

Step 4 : Find the number of pages he read on Saturday

3 units → $3 \times 221 = 663$

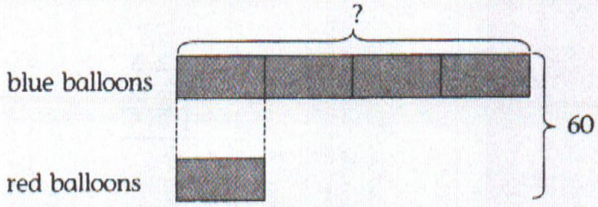
$$\begin{array}{r} 2\,2\,1 \\ \times\quad 3 \\ \hline 6\,6\,3 \end{array}$$

He read 663 pages on Saturday.

Answer: 663 pages

Solution to Question 40

Step 1 : Draw a model



Step 2 : Find the number of red balloons

5 units → 60

1 unit → $60 \div 5 = 12$

$$\begin{array}{r} 1\,2 \\ 5\overline{)\,6\,0} \\ -\,5\downarrow \\ \hline 1\,0 \\ -\,1\,0 \\ \hline 0 \end{array}$$

Step 3 : Find the number of blue balloons

4 units → $4 \times 12 = 48$

$$\begin{array}{r} 1\,2 \\ \times\quad 4 \\ \hline 4\,8 \end{array}$$

There are 48 blue balloons.

Answer: 48 blue balloons

Solution to Question 41

Step 1 : Find the total number of chairs

$7 \times 25 = 175$

$$\begin{array}{r} {\scriptstyle 3} \\ 25 \\ \times\ \ 7 \\ \hline 175 \end{array}$$

Step 2 : Find the number of chairs that were not occupied

$175 - 157 = 18$

$$\begin{array}{r} {\scriptstyle 6\ 15} \\ 1\not{7}\not{5} \\ -\ 157 \\ \hline 18 \end{array}$$

18 chairs were not occupied.

Answer: 18 chairs

Solution to Question 42

Step 1 : Find the total number of apple pies

$6 \times 23 = 138$

$138 + 3 = 141$

$$\begin{array}{r} {\scriptstyle 1} \\ 23 \\ \times\ \ 6 \\ \hline 138 \end{array}$$

Step 2 : Find the number of boxes if 3 apple pies were packed in a box

$141 \div 3 = 47$

$$\begin{array}{r} 47 \\ 3\overline{)141} \\ -\ 12\downarrow \\ \hline 21 \\ -\ 21 \\ \hline 0 \end{array}$$

Step 3 : Find how many more boxes of 3 apple pies than boxes of 6 apple pies she would have

$47 - 23 = 24$

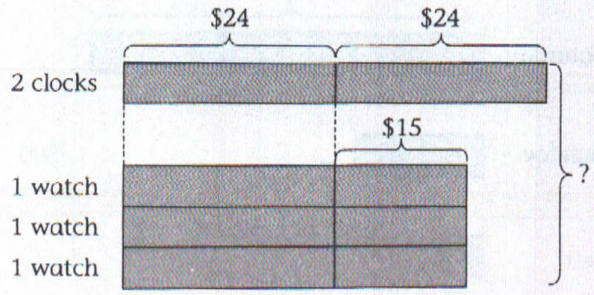
$$\begin{array}{r} 47 \\ -\ 23 \\ \hline 24 \end{array}$$

She would have 24 more boxes of apple pies.

Answer: 24 more boxes

Solution to Question 43

Step 1 : Draw a model



Step 2 : Find the cost of 3 watches

$\$24 + \$15 = \$39$

$3 \times \$39 = \$117$

$$\begin{array}{r} 24 \\ +\ 15 \\ \hline 39 \end{array} \qquad \begin{array}{r} {\scriptstyle 2} \\ 39 \\ \times\ \ 3 \\ \hline 117 \end{array}$$

Step 3 : Find the cost of 2 clocks

$2 \times \$24 = \$48$

$$\begin{array}{r} 24 \\ \times\ \ 2 \\ \hline 48 \end{array}$$

Step 4 : Find the amount of money he spent

$\$48 + \$117 = \$165$

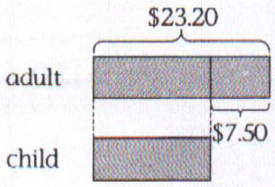
$$\begin{array}{r} {\scriptstyle 1} \\ 117 \\ +\ \ 48 \\ \hline 165 \end{array}$$

He spent $165.

Answer: $165

Solution to Question 44

Step 1 : Draw a model



Step 2 : Find the amount of money that a child had to pay

$23.20 – $7.50 = $15.70

$$\begin{array}{r} {\scriptstyle 1\ 12\ 12} \\ \$2\ \not{3}.\ \not{2}\ 0 \\ -\ \ 7.\ 5\ 0 \\ \hline \$1\ 5.\ 7\ 0 \end{array}$$

Step 3 : Find the total cost of the buffet lunch for 4 adults

4 × $23.20 = $92.80

$$\begin{array}{r} {\scriptstyle 1} \\ \$2\ 3.\ 2\ 0 \\ \times\ \ \ \ \ 4 \\ \hline \$9\ 2.\ 8\ 0 \end{array}$$

Step 4 : Find the total cost of the buffet lunch for 5 children

5 × $15.70 = $78.50

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

Step 5 : Find the total amount of money for the buffet lunch

$92.80 + $78.50 = $171.30

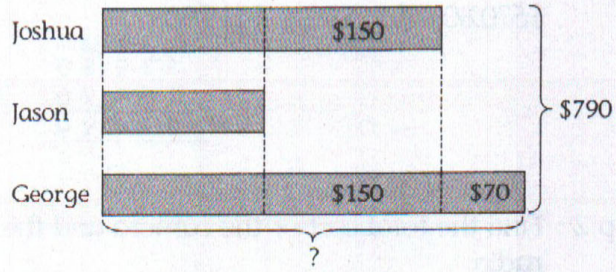
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ \$9\ 2.\ 8\ 0 \\ +\ \$7\ 8.\ 5\ 0 \\ \hline \$1\ 7\ 1.\ 3\ 0 \end{array}$$

4 adults and 5 children had to pay $171.30 for the buffet lunch.

Answer: $171.30

Solution to Question 45

Step 1 : Draw a model



Step 2 : Find the amount of money Joshua and George had more than Jason

$150 + $70 = $220

$220 + $150 = $370

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

Step 3 : Find the amount of money Jason had

3 units → $790 – $370 = $420

$$\begin{array}{r} 7\ 9\ 0 \\ -\ 3\ 7\ 0 \\ \hline 4\ 2\ 0 \end{array}$$

1 unit → $420 ÷ 3 = $140

$$\begin{array}{r} 1\ 4\ 0 \\ 3\overline{)4\ 2\ 0} \\ -\ 3\ \downarrow \\ \hline 1\ 2 \\ -\ 1\ 2\ \downarrow \\ \hline 0\ 0 \\ -\ 0 \\ \hline 0 \end{array}$$

Step 4 : Find the amount of money George had

$140 + $220 = $360

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

George had $360.

Answer: $360

Solution to Question 46

Step 1 : Find the cost of the radio

$570.80 – $155.90 = $414.90

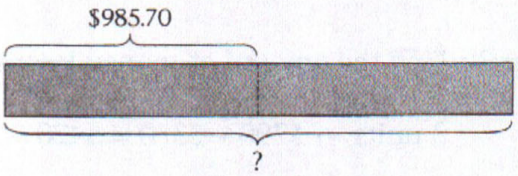
$$\begin{array}{r} {}^{6}5\,{}^{9}7\,{}^{18}0.\,8\,0 \\ -\,1\,5\,5.\,9\,0 \\ \hline 4\,1\,4.\,9\,0 \end{array}$$

Step 2 : Find the total cost of the camera and the radio

$570.80 + $414.90 = $985.70

$$\begin{array}{r} {}^{1} \\ 5\,7\,0.\,8\,0 \\ +\,4\,1\,4.\,9\,0 \\ \hline 9\,8\,5.\,7\,0 \end{array}$$

Step 3 : Draw a model and find the amount of money he had at first



2 × $985.70 = $1971.40

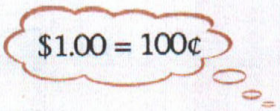
$$\begin{array}{r} {}^{1}{}^{1}{}^{1} \\ 9\,8\,5.\,7\,0 \\ \times\qquad 2 \\ \hline 1\,9\,7\,1.\,4\,0 \end{array}$$

He had $1971.40 at first.

Answer: $1971.40

Solution to Question 47

Step 1 : Find the cost of 4 oranges



35¢ × 4 = 140¢

140¢ = $1.40

Step 2 : Find the cost of 4 apples

$3.00 – $1.40 = $1.60

Step 3 : Find the cost of 1 apple

$1.60 ÷ 4 = $0.40

Step 4 : Find the difference in cost between 1 apple and 1 orange

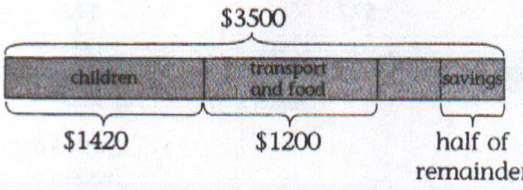
$0.40 – $0.35 = $0.05
= 5¢

The apple costs 5¢ more.

Answer: 5¢

Solution to Question 48

Step 1 : Draw a model



Step 2 : Find the amount of money she spent on her children, transport and food

$\$1420 + \$1200 = \$2620$

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

Step 3 : Find the amount of her remaining money

$\$3500 - \$2620 = \$880$

$$\begin{array}{r} {\scriptstyle 2\ 14\ 10} \\ 3\,5\,\not{0}\,0 \\ -\,2\,6\,2\,0 \\ \hline 8\,8\,0 \end{array}$$

Step 4 : Find the amount of money she saved in a month

$\$880 \div 2 = \$440$

$$\begin{array}{r} 4\,4\,0 \\ 2\overline{)\,8\,8\,0} \\ -\,8\downarrow\ \ \\ \hline 0\,8\ \ \\ -\,8\downarrow \\ \hline 0 \\ -\,0 \\ \hline 0 \end{array}$$

Step 5 : Find the amount of money she would save in 3 months

$3 \times \$440 = \$1320$

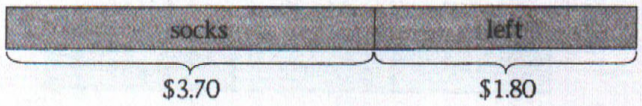
$$\begin{array}{r} {\scriptstyle 1} \\ 4\,4\,0 \\ \times\quad 3 \\ \hline 1\,3\,2\,0 \end{array}$$

She would save $1320 in 3 months.

Answer: $1320

Solution to Question 49

Step 1 : Draw a model

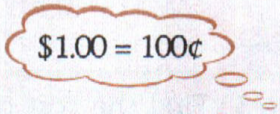


Step 2 : Find the amount of money Adrian had

$\$3.70 + \$1.80 = \$5.50$

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

Step 3 : Find the amount of money he had in 50-cent coins



$7 \times 50¢ = 350¢ = \$3.50$

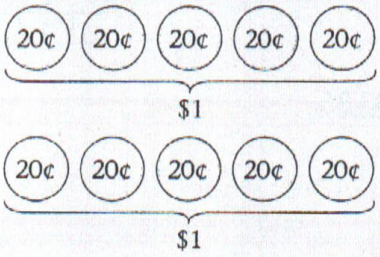
$$\begin{array}{r} 5\,0 \\ \times\quad 7 \\ \hline 3\,5\,0 \end{array}$$

Step 4 : Find the amount of money he had in 20-cent coins

$\$5.50 - \$3.50 = \$2.00$

$$\begin{array}{r} 5.\,5\,0 \\ -\,3.\,5\,0 \\ \hline 2.\,0\,0 \end{array}$$

Step 5 : Find the number of 20-cent coins

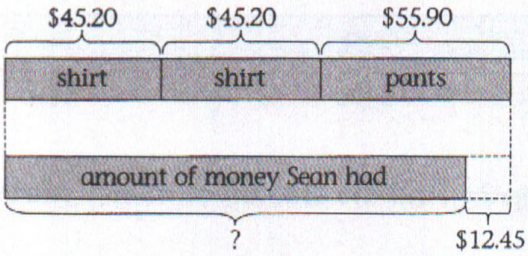


He had ten 20-cent coins at first.

Answer: Ten 20-cent coins

Solution to Question 50

Step 1 : Draw a model



Step 2 : Find the cost of 2 shirts

$45.20 + $45.20 = $90.40

$$\begin{array}{r} {\scriptstyle 1} \\ 45.20 \\ +\ 45.20 \\ \hline 90.40 \end{array}$$

Step 3 : Find the cost of 2 shirts and a pair of pants

$90.40 + $55.90 = $146.30

$$\begin{array}{r} {\scriptstyle 1} \\ 90.40 \\ +\ 55.90 \\ \hline 146.30 \end{array}$$

Step 4 : Find the amount of money he had

$146.30 – $12.45 = $133.85

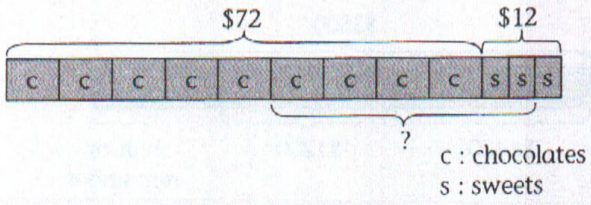
$$\begin{array}{r} {\scriptstyle 5\ 12\ 10} \\ 146.\not{3}\ \not{0} \\ -\ 12.45 \\ \hline 133.85 \end{array}$$

Sean had $133.85.

Answer: $133.85

Solution to Question 51

Step 1 : Draw a model



Step 2 : Find the cost of a pack of chocolates

$9 \times 8 = 72$

$72 ÷ 9 = $8

Step 3 : Find the cost of a pack of sweets

$3 \times 4 = 12$

$12 ÷ 3 = $4

Step 4 : Find the cost of 4 packs of chocolates and 2 packs of sweets

chocolates → $4 \times $8 = $32

sweets → $2 \times $4 = $8

Step 5 : Find the total amount she had to pay for the items

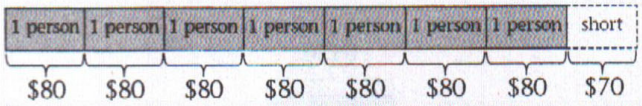
$32 + $8 = $40

The total amount of money that she had to pay for the items was $40.

Answer: $40

Solution to Question 52

Step 1 : Draw a model



Step 2 : Find the amount of money that 7 people had paid

$7 \times \$80 = \$560$

$$\begin{array}{r} 80 \\ \times\ 7 \\ \hline 560 \end{array}$$

Step 3 : Find the cost of the dinner

$\$560 + \$70 = \$630$

$$\begin{array}{r} {\scriptstyle 1} \\ 560 \\ +\ 70 \\ \hline 630 \end{array}$$

Step 4 : Find the amount of money that each of them should pay

$\$630 \div 7 = \$90$

$$\begin{array}{r} 90 \\ 7\overline{)630} \\ -63\downarrow \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

The amount of money that each of them should pay was $90.

Answer: $90

Solution to Question 53

Step 1 : Find the cost of a child concert ticket

$\$25 - \$7 = \$18$

Step 2 : Find the cost of 2 adult concert tickets

$2 \times \$25 = \$50$

$$\begin{array}{r} {\scriptstyle 1} \\ 25 \\ \times\ 2 \\ \hline 50 \end{array}$$

Step 3 : Find the amount paid for all the children

$\$176 - \$50 = \$126$

Step 4 : Find the number of children they took to the concert

$\$126 \div \$18 = 7$

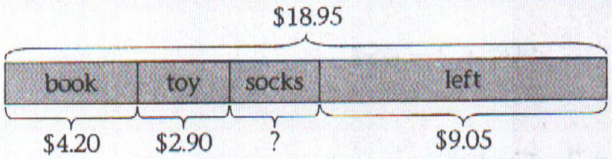
$7 \times 18 = 126$

They took 7 children to the concert.

Answer: 7 children

Solution to Question 54

Step 1 : Draw a model



Step 2 : Find the total cost of the book and toy

$\$4.20 + \$2.90 = \$7.10$

$$\begin{array}{r} {\scriptstyle 1} \\ 4.20 \\ +\ 2.90 \\ \hline 7.10 \end{array}$$

Step 3 : Find the total amount of money spent and left

$\$7.10 + \$9.05 = \$16.15$

$$\begin{array}{r} 7.10 \\ +\ 9.05 \\ \hline 16.15 \end{array}$$

Step 4 : Find the cost of the pair of socks

$\$18.95 - \$16.15 = \$2.80$

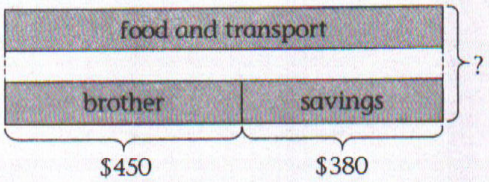
$$\begin{array}{r} 18.95 \\ -\ 16.15 \\ \hline 2.80 \end{array}$$

She paid $2.80 for the pair of socks.

Answer: $2.80

Solution to Question 55

Step 1 : Draw a model



Step 2 : Find half of her salary

$\$450 + \$380 = \$830$

$$\begin{array}{r} {\scriptstyle 1} \\ 450 \\ +\ 380 \\ \hline 830 \end{array}$$

Step 3 : Find Janet's salary

$2 \times \$830 = \$1660$

$$\begin{array}{r} 830 \\ \times\ 2 \\ \hline 1660 \end{array}$$

Janet's salary was $1660.

Answer: $1660

Solution to Question 56

Step 1 : Find the cost of 1 orange

90¢ ÷ 2 = 45¢

Step 2 : Find the cost of a guava

45¢ + 80¢ = 125¢

$$\begin{array}{r} 45 \\ +\ 80 \\ \hline 125 \end{array}$$

Step 3 : Find the total cost of 5 oranges and 1 guava

$1 = 100¢

45¢ × 5 = 225¢

125¢ + 225¢ = 350¢

= $3.50

$$\begin{array}{r} {}^{2} \\ 45 \\ \times\ \ 5 \\ \hline 225 \end{array} \qquad \begin{array}{r} {}^{1} \\ 125 \\ +\ 225 \\ \hline 350 \end{array}$$

Step 4 : Find the amount of money she had at first

$3.50 + $15.75 = $19.25

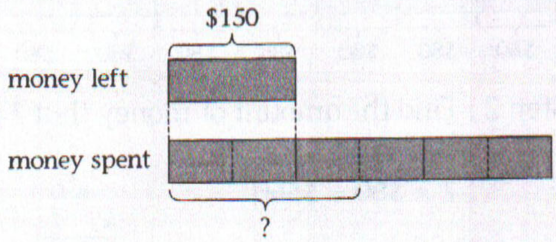
$$\begin{array}{r} {}^{1} \\ 15.75 \\ +\ \ 3.50 \\ \hline 19.25 \end{array}$$

She had <u>$19.25</u> at first.

Answer: <u>$19.25</u>

Solution to Question 57

Step 1 : Draw a model



Step 2 : Find the amount of money he had spent

3 × $150 = $450

$$\begin{array}{r} {}^{1} \\ 150 \\ \times\ \ \ 3 \\ \hline 450 \end{array}$$

Step 3 : Find the cost of each watch

$450 ÷ 2 = $225

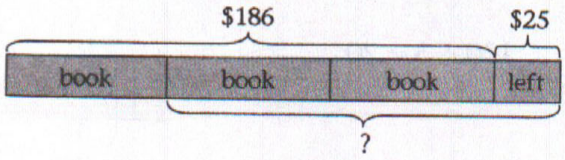
$$\begin{array}{r} 225 \\ 2\overline{)450} \\ -\ 4\ \ \\ \hline 5\ \\ -\ 4\ \\ \hline 10 \\ -\ 10 \\ \hline 0 \end{array}$$

Each watch cost <u>$225</u>.

Answer: <u>$225</u>

Solution to Question 58

Step 1 : Draw a model



Step 2 : Find the cost of each book

$186 ÷ 3 = $62

$$\begin{array}{r} 62 \\ 3\overline{)186} \\ -18\downarrow \\ \hline 06 \\ -6 \\ \hline 0 \end{array}$$

Step 3 : Find the cost of 2 such books

2 × $62 = $124

$$\begin{array}{r} 62 \\ \times\ 2 \\ \hline 124 \end{array}$$

Step 4 : Find the amount of money she had at first

$124 + $25 = $149

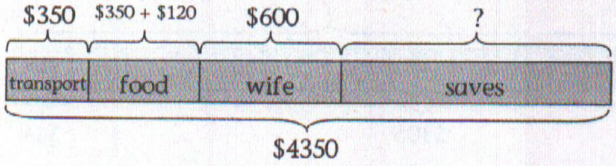
$$\begin{array}{r} 124 \\ +\ 25 \\ \hline 149 \end{array}$$

She had $149 at first.

Answer: $149

Solution to Question 59

Step 1 : Draw a model



Step 2 : Find the amount of money he spends on food

$350 + $120 = $470

$$\begin{array}{r} 350 \\ +\ 120 \\ \hline 470 \end{array}$$

Step 3 : Find the total amount money he spends and gives to his wife

$350 + $470 = $820

$$\begin{array}{r} {\scriptstyle 1} \\ 350 \\ +\ 470 \\ \hline 820 \end{array}$$

$820 + $600 = $1420

$$\begin{array}{r} 820 \\ +\ 600 \\ \hline 1420 \end{array}$$

Step 4 : Find the amount of money he saves

$4350 – $1420 = $2930

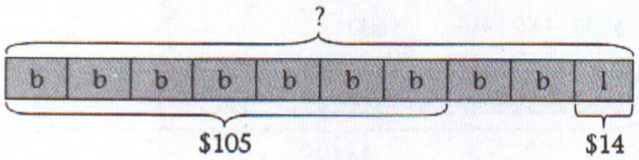
$$\begin{array}{r} {\scriptstyle 3\ 13} \\ 4\,\not{3}\,50 \\ -\ 1420 \\ \hline 2930 \end{array}$$

He saves $2930.

Answer: $2930

Solution to Question 60

Step 1 : Draw a model



b : book
l : left

Step 2 : Find the cost of each book

$105 ÷ 7 = $15

$$\begin{array}{r} 15 \\ 7\overline{)105} \\ -\ 7\downarrow \\ \hline 35 \\ -\ 35 \\ \hline 0 \end{array}$$

Step 3 : Find the cost of 9 books

$9 \times \$15 = \$135$

$$\begin{array}{r} {\scriptstyle 4} \\ 15 \\ \times\ \ 9 \\ \hline 135 \end{array}$$

Step 4 : Find the amount of money he had at first

$\$135 + \$14 = \$149$

$$\begin{array}{r} 135 \\ +\ \ 14 \\ \hline 149 \end{array}$$

He had $149 at first.

Answer: $149

Solution to Question 61

Step 1 : Find the number of boxes of oranges Mr Fox sold

$100 ÷ 5 = 20$

$$\begin{array}{r} 20 \\ 5\overline{)100} \\ -\ 10\downarrow \\ \hline 00 \\ -\ 0 \\ \hline 0 \end{array}$$

Step 2 : Find the number of boxes of oranges Mr Owen sold

$100 ÷ 4 = 25$

$$\begin{array}{r} 25 \\ 4\overline{)100} \\ -\ 8\downarrow \\ \hline 20 \\ -\ 20 \\ \hline 0 \end{array}$$

Step 3 : Find the amount of money each of them earned

Mr Fox → $20 \times \$3 = \$60$

$$\begin{array}{r} 20 \\ \times\ \ 3 \\ \hline 60 \end{array}$$

Mr Owen → $25 \times \$2 = \$50$

$$\begin{array}{r} {\scriptstyle 1} \\ 25 \\ \times\ \ 2 \\ \hline 50 \end{array}$$

Step 4 : Find how much more money Mr Fox earned than Mr Owen

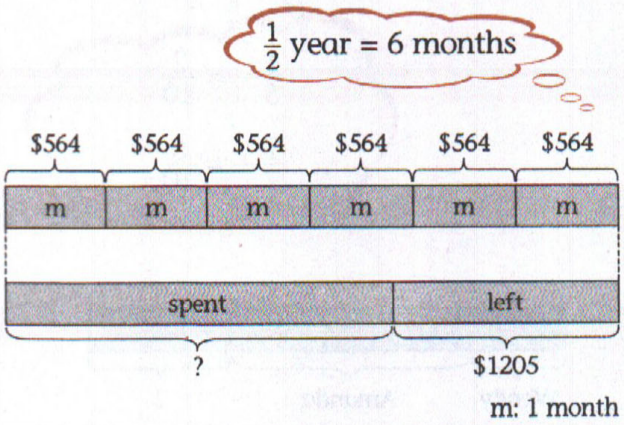
$\$60 - \$50 = \$10$

Mr Fox earned $10 more than Mr Owen.

Answer: $10 more

Solution to Question 62

Step 1 : Draw a model



m: 1 month

Step 2 : Find the total amount of money she had saved in 6 months

$6 \times \$564 = \$3384$

$$\begin{array}{r} {\scriptstyle 3\ 2\ \ } \\ 5\ 6\ 4 \\ \times \quad 6 \\ \hline 3\ 3\ 8\ 4 \end{array}$$

Step 3 : Find the amount of money she spent

$\$3384 - \$1205 = \$2179$

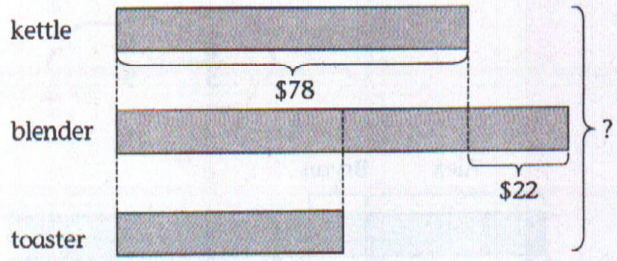
$$\begin{array}{r} {\scriptstyle \ \ 7\ 14} \\ 3\ 3\ \cancel{8}\ \cancel{4} \\ -\ 1\ 2\ 0\ 5 \\ \hline 2\ 1\ 7\ 9 \end{array}$$

She spent $2179.

Answer: $2179

Solution to Question 63

Step 1 : Draw a model



Step 2 : Find the cost of the blender

$\$78 + \$22 = \$100$

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

Step 3 : Find the cost of the toaster

$\$100 \div 2 = \$50$

$$\begin{array}{r} 5\ 0 \\ 2\overline{)1\ 0\ 0} \\ -\ 1\ 0\downarrow \\ \hline 0\ 0 \\ -\ 0 \\ \hline 0 \end{array}$$

Step 4 : Find the total cost of the 3 electrical items

$\$78 + \$100 = \$178$

$\$178 + \$50 = \$228$

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

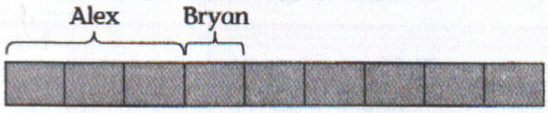
The total cost of the 3 electrical items was $228.

Answer: $228

Solution to Question 64

Step 1 : Draw a model

$\frac{1}{3} \times \frac{3}{3} = \frac{3}{9}$



Step 2 : Find how much the boys ate altogether

$$\frac{1}{3} + \frac{1}{9} = \frac{3}{9} + \frac{1}{9}$$
$$= \frac{4}{9}$$

They ate $\frac{4}{9}$ of the cake altogether.

Answers: $\frac{4}{9}$

Solution to Question 65

Find the amount of flour Kate used

$\frac{1}{2} \times \frac{2}{4} = \frac{4}{8}$

$$\frac{1}{2}\text{ kg} - \frac{1}{8}\text{ kg}$$
$$= \frac{4}{8}\text{ kg} - \frac{1}{8}\text{ kg}$$
$$= \frac{3}{8}\text{ kg}$$

Kate used $\frac{3}{8}$ kg of flour.

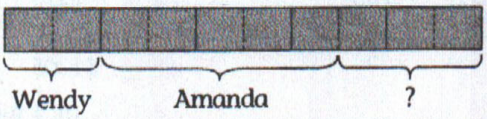
Answer: $\frac{3}{8}$ kg

Solution to Question 66

Draw a model

$\frac{1}{5} \times \frac{2}{2} = \frac{2}{10}$

$\frac{1}{2} \times \frac{5}{5} = \frac{5}{10}$



$$\frac{10}{10} - \frac{2}{10} - \frac{5}{10} = \frac{3}{10}$$

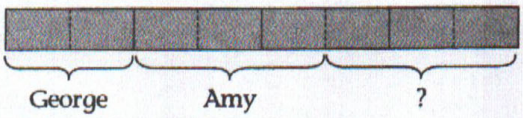
$\frac{3}{10}$ of the pizza was left.

Answer: $\frac{3}{10}$

Solution to Question 67

Draw a model

$\frac{1}{4} \times \frac{2}{2} = \frac{2}{8}$



Total → 8 units

Left → 8 – 2 – 3 = 3 units

Fraction → $\frac{3}{8}$

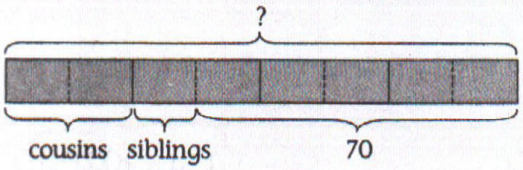
$\frac{3}{8}$ of the cake was left.

Answer: $\frac{3}{8}$

Solution to Question 68

Step 1 : Draw a model

$\frac{1}{4} \overset{\times 2}{\underset{\times 2}{=}} \frac{2}{8}$



Step 2 : Find the number of sweets given to siblings

5 units → 70

1 unit → 70 ÷ 5 = 14

```
  14
5)70
 -5 ↓
  20
 -20
   0
```

Step 3 : Find the total number of sweets Bernice bought

8 units → 8 × 14 = 112

```
  3
  14
×  8
-----
 112
```

She bought 112 sweets.

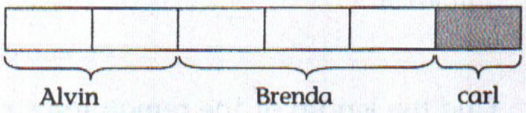
Answer: 112 sweets

Solution to Question 69

Draw a model

Alvin → $\frac{1}{3} \overset{\times 2}{\underset{\times 2}{=}} \frac{2}{6}$

Brenda → $\frac{1}{2} \overset{\times 3}{\underset{\times 3}{=}} \frac{3}{6}$



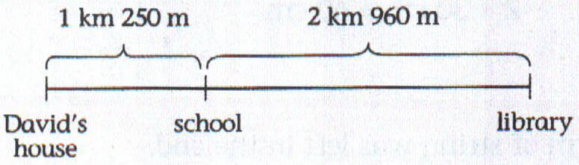
Carl → $\frac{6}{6} - \frac{2}{6} - \frac{3}{6} = \frac{1}{6}$

Carl ate $\frac{1}{6}$ of the cake.

Answer: $\frac{1}{6}$

Solution to Question 70

Step 1 : Draw a Time-Line Model



Step 2 : Find the total distance

1 km = 1000 m
2 km = 2000 m

1 km 250 m = 1250 m

2 km 960 m = 2960 m

1250 m + 2960 m = 4210 m

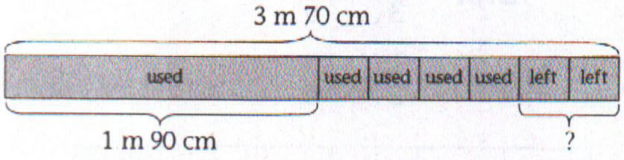
```
  11
 1250
+2960
-----
 4210
```

He had travelled a total distance of 4210 m.

Answer: 4210 m

Solution to Question 71

Step 1 : Draw a model



Step 2 : Find the length of the remaining string

1 m = 100 cm

3 m 70 cm – 1 m 90 cm
= 370 cm – 190 cm
= 180 cm

$$\begin{array}{r} {}^{2}\cancel{3}\,{}^{17}\cancel{7}\,0 \\ -\ 1\ 9\ 0 \\ \hline 1\ 8\ 0 \end{array}$$

Step 3 : Find the length of each strip

180 cm ÷ 6 = 30 cm

$$\begin{array}{r} 3\ 0 \\ 6\overline{)\,1\ 8\ 0} \\ -\ 1\ 8\downarrow \\ \hline 0\ 0 \\ -\ 0 \\ \hline 0 \end{array}$$

Step 4 : Find the length of string he had left

2 × 30 cm = 60 cm

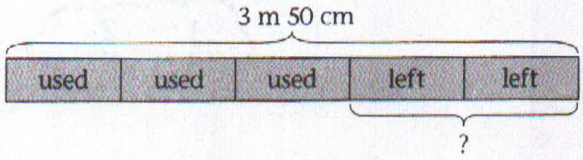
$$\begin{array}{r} 3\ 0 \\ \times\ \ 2 \\ \hline 6\ 0 \end{array}$$

60 cm of string was left in the end.

Answer: 60 cm

Solution to Question 72

Step 1 : Draw a model



Step 2 : Find the length of each piece

1 m = 100 cm

3 m 50 cm = 350 cm

350 cm ÷ 5 = 70 cm

$$\begin{array}{r} 7\ 0 \\ 5\overline{)\,3\ 5\ 0} \\ -\ 3\ 5\downarrow \\ \hline 0\ 0 \\ -\ 0 \\ \hline 0 \end{array}$$

Step 3 : Find the length of cloth that she had left

2 × 70 cm = 140 cm
= 1 m 40 cm

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

She had 1 m 40 cm of cloth left.

Answer: 1 m 40 cm

Solution to Question 73

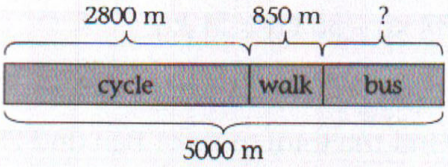
Step 1 : Find the distance he walked

1 km = 1000 m

2 km 800 m – 1 km 950 m
= 2800 m – 1950 m
= 850 m

$$\begin{array}{r} {\scriptstyle 1\ 17\ 10} \\ 2\ \not{8}\ \not{0}\ 0 \\ -\ 1\ 9\ 5\ 0 \\ \hline 8\ 5\ 0 \end{array}$$

Step 2 : Draw a model



Step 3 : Find the total distance he walked and cycled

= 2800 m + 850 m
= 3650 m

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

Step 4 : Find the distance he travelled by bus

5000 m – 3650 m
= 1350 m
= 1 km 350 m

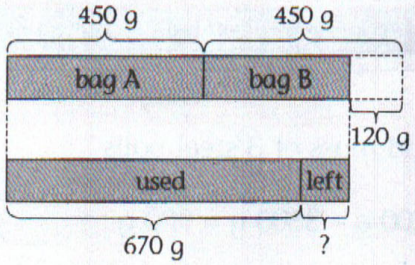
$$\begin{array}{r} {\scriptstyle 4\ 9\ 10} \\ 5\ \not{0}\ \not{0}\ 0 \\ -\ 3\ 6\ 5\ 0 \\ \hline 1\ 3\ 5\ 0 \end{array}$$

Daniel travelled 1 km 350 m by bus.

Answer: 1 km 350 m

Solution to Question 74

Step 1 : Draw a model



Step 2 : Find the amount of flour in bag B

450 g – 120 g = 330 g

$$\begin{array}{r} 4\ 5\ 0 \\ -\ 1\ 2\ 0 \\ \hline 3\ 3\ 0 \end{array}$$

Step 3 : Find the total amount of flour in bags A and B

450 g + 330 g = 780 g

$$\begin{array}{r} 4\ 5\ 0 \\ +\ 3\ 3\ 0 \\ \hline 7\ 8\ 0 \end{array}$$

Step 4 : Find the amount of flour left

780 g – 670 g = 110 g

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

110 g of flour was left.

Answer: 110 g

Solution to Question 75

Step 1 : Find the mass of 16 sacks of soil

16 × 9 kg = 144 kg

$$\begin{array}{r} {\scriptstyle 5} \\ 1\ 6 \\ \times\ \ 9 \\ \hline 1\ 4\ 4 \end{array}$$

Step 2 : Find the number of bags he used

144 kg ÷ 3 kg = 48

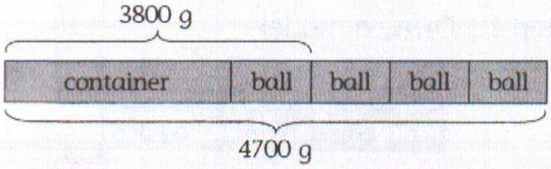
$$\begin{array}{r} \ \ 4\ 8 \\ 3\overline{)1\ 4\ 4} \\ -\ 1\ 2\downarrow \\ \hline \ \ 2\ 4 \\ -\ 2\ 4 \\ \hline \ \ \ 0 \end{array}$$

He packed 48 bags.

Answer: 48 bags

Solution to Question 76

Step 1 : Draw a model



Step 2 : Find mass of 3 steel balls

4700 g – 3800 g = 900 g

$$\begin{array}{r} {}^{3}\not{4}\,{}^{17}\not{7}\,00 \\ -\ 3\,8\,0\,0 \\ \hline 9\,0\,0 \end{array}$$

Step 3 : Find the mass of one steel ball

900 g ÷ 3 = 300 g

$$\begin{array}{r|l} & 3\,0\,0 \\ \hline 3 & 9\,0\,0 \\ -\ 9\downarrow & \\ \hline 0\,0 & \\ -\ \ 0\downarrow & \\ \hline 0\,0 & \\ -\ \ 0 & \\ \hline 0 & \end{array}$$

Step 4 : Find the mass of the container

3800 g – 300 g = 3500 g

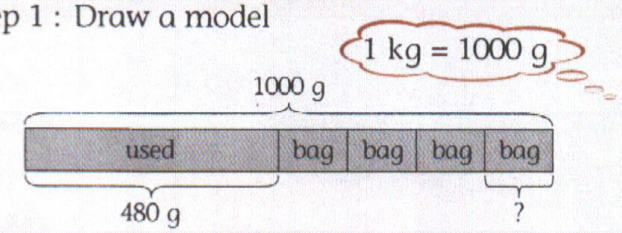
$$\begin{array}{r} 3\,8\,0\,0 \\ -\ \ 3\,0\,0 \\ \hline 3\,5\,0\,0 \end{array}$$

The mass of the container is 3500 g.

Answer: 3500 g

Solution to Question 77

Step 1 : Draw a model



Step 2 : Find the amount of flour packed in 4 bags

1000 g – 480 g = 520 g

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

Step 3 : Find the amount of flour in each bag

520 g ÷ 4 = 130 g

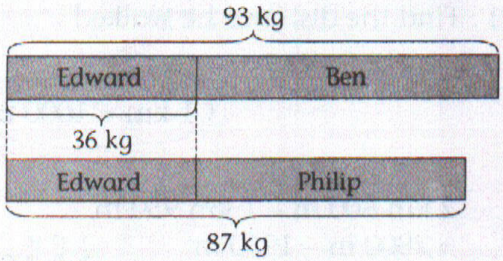
$$\begin{array}{r|l} & 1\,3\,0 \\ \hline 4 & 5\,2\,0 \\ -\ 4\downarrow & \\ \hline 1\,2 & \\ -\ 1\,2\downarrow & \\ \hline 0\,0 & \\ -\ \ 0 & \\ \hline 0 & \end{array}$$

There was 130 g of flour in each bag.

Answer: 130 g

Solution to Question 78

Step 1 : Draw a model



Step 2 : Find Ben's mass

93 kg – 36 kg = 57 kg

$$\begin{array}{r} {}^{8}\not{9}\,{}^{13}\not{3} \\ -\ 3\,6 \\ \hline 5\,7 \end{array}$$

Step 3 : Find Philip's mass

87 kg – 36 kg = 51 kg

$$\begin{array}{r} 8\,7 \\ -\ 3\,6 \\ \hline 5\,1 \end{array}$$

Step 4 : Find the total mass of Ben and Philip

57 kg + 51 kg = 108 kg

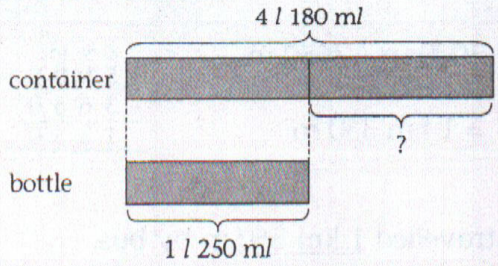
$$\begin{array}{r} 5\,7 \\ +\ 5\,1 \\ \hline 1\,0\,8 \end{array}$$

The total mass of Ben and Philip is 108 kg.

Answer: 108 kg

Solution to Question 79

Step 1 : Draw a model



Step 2 : Convert *l* to ml

1 *l* = 1000 ml

4 *l* 180 ml = 4180 ml
1 *l* 250 ml = 1250 ml

Step 3 : Find the difference in volume

4180 ml – 1250 ml = 2930 ml

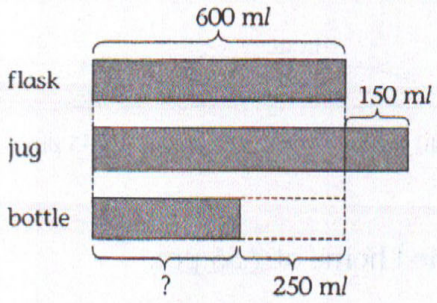
$$\begin{array}{r} {}^{3}\not{4}\,{}^{11}\not{1}\,80 \\ -\ 1\,2\,5\,0 \\ \hline 2\,9\,3\,0 \end{array}$$

There was 2930 ml more water in the container than the bottle.

Answer: 2930 ml

Solution to Question 80

Step 1 : Draw a model



Step 2 : Find the volume of the jug

600 ml + 150 ml = 750 ml

$$\begin{array}{r} 600 \\ +\ 150 \\ \hline 750 \end{array}$$

Step 3 : Find the volume of the bottle

600 ml – 250 ml = 350 ml

$$\begin{array}{r} {\scriptstyle 5\ 10} \\ 6\not{0}0 \\ -\ 250 \\ \hline 350 \end{array}$$

Step 4 : Find the total volume of water in the flask, jug and bottle

600 ml + 750 ml = 1350 ml

$$\begin{array}{r} 600 \\ +\ 750 \\ \hline 1350 \end{array}$$

1350 ml + 350 ml = 1700 ml

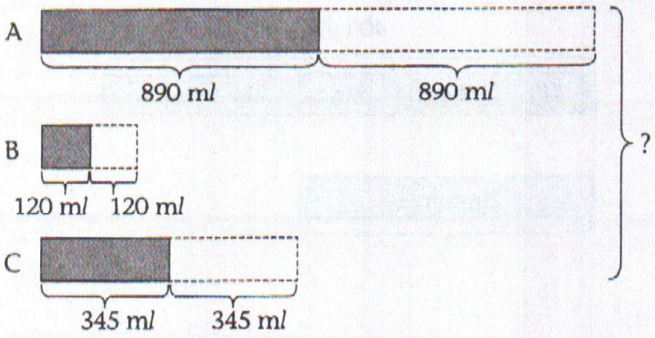
$$\begin{array}{r} {\scriptstyle 1} \\ 1350 \\ +\ 350 \\ \hline 1700 \end{array}$$

The total volume of water is 1700 ml.

Answers: 1700 ml

Solution to Question 81

Step 1 : Draw a model



Step 2 : Find the total volume of water in the 3 containers when they are half-filled with water

890 ml + 120 ml = 1010 ml

$$\begin{array}{r} {\scriptstyle 1} \\ 890 \\ +\ 120 \\ \hline 1010 \end{array}$$

1010 ml + 345 ml = 1355 ml

$$\begin{array}{r} 1010 \\ +\ 345 \\ \hline 1355 \end{array}$$

Step 3 : Find the total volume of water that the 3 containers can hold

1 l = 1000 ml

2 × 1355 ml = 2710 ml
= 2 l 710 ml

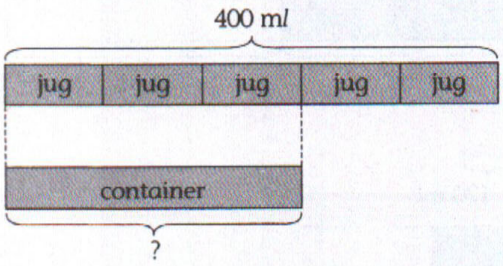
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 1355 \\ \times\ \ 2 \\ \hline 2710 \end{array}$$

The 3 containers can hold 2 l 710 ml in total.

Answer: 2710 ml

Solution to Question 82

Step 1 : Draw a model



Step 2 : Find the capacity of each jug

400 ml ÷ 5 = 80 ml

$$\begin{array}{r} 80 \\ 5\overline{)400} \\ -40\downarrow \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

Step 3 : Find the volume of water in the container

3 × 80 ml = 240 ml

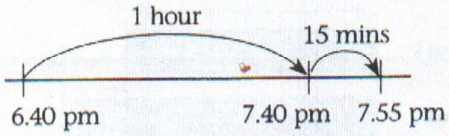
$$\begin{array}{r} 80 \\ \times\ 3 \\ \hline 240 \end{array}$$

There was 240 ml of water in the container.

Answer: 240 ml

Solution to Question 83

Draw a Time-Line model

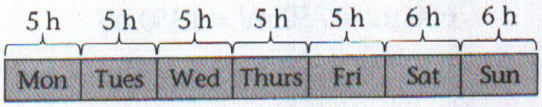


She returned home at 7.55 pm.

Answer: 7.55 pm

Solution to Question 84

Step 1 : Draw a model



Step 2 : Find the total number of working hours in one week

5 weekdays → 5 × 5 = 25 hours
2 weekends → 2 × 6 = 12 hours
Total → 25 + 12 = 37 hours

Step 3 : Find the the total amount Leon will earn in a week

37 × $7 = $259

$$\begin{array}{r} {\scriptstyle 4} \\ 37 \\ \times\ 7 \\ \hline 259 \end{array}$$

He will earn $259 in a week.

Answer: $259

Solution to Question 85

Step 1 : Find his son's present age

$4 + 1 = 5$

Step 2 : Find Mr Watson's present age

$7 \times 5 = 35$

Step 3 : Find the difference in age between Mr Watson and his son

$35 - 5 = 30$

Step 4 : Find his son's age when Mr Watson turns 60 years old

$60 - 30 = 30$

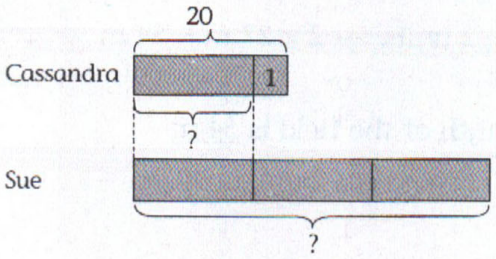
$$\begin{array}{r} 60 \\ -\ 30 \\ \hline 30 \end{array}$$

His son will be 30 years old.

Answer: 30 years old

Solution to Question 86

Step 1 : Draw a model



Step 2 : Find Cassandra's present age

$20 - 1 = 19$

Step 3 : Find Sue's present age

$3 \times 19 = 57$

$$\begin{array}{r} {\scriptstyle 2} \\ 19 \\ \times\ \ 3 \\ \hline 57 \end{array}$$

Step 4 : Find Sue's age last year

$57 - 1 = 56$

Sue was 56 years old last year.

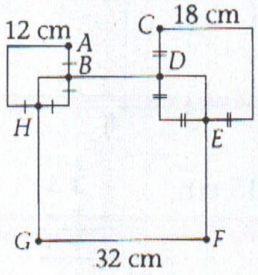
Answer: 56 years old

Solution to Question 87

Step 1 : Find the lengths AB and CD

$AB = 12 \text{ cm} \div 2 = 6 \text{ cm}$

$CD = 18 \text{ cm} \div 2 = 9 \text{ cm}$



Step 2 : Find the lengths EF and GH

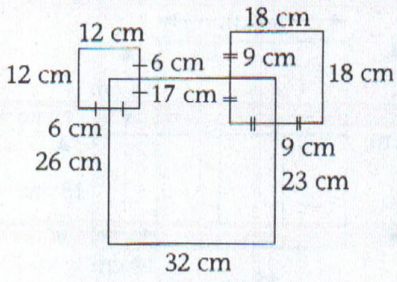
$EF = 32 \text{ cm} - 9 \text{ cm} = 23 \text{ cm}$

$GH = 32 \text{ cm} - 6 \text{ cm} = 26 \text{ cm}$

Step 3 : Find the length BD

$BD = 32 \text{ cm} - 6 \text{ cm} - 9 \text{ cm} = 17 \text{ cm}$

Step 4 : Find the perimeter of the figure



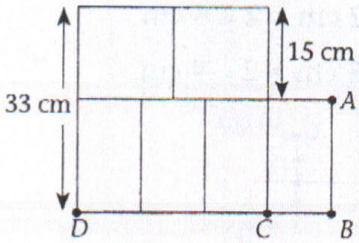
$12 \text{ cm} + 6 \text{ cm} + 17 \text{ cm} + 9 \text{ cm} + 18 \text{ cm} + 18 \text{ cm} + 9 \text{ cm} + 23 \text{ cm} + 32 \text{ cm} + 26 \text{ cm} + 6 \text{ cm} + 12 \text{ cm} = 188 \text{ cm}$

The perimeter of the figure is 188 cm.

Answer: 188 cm

Solution to Question 88

Step 1 : Find the length *AB*



$AB = 33\text{ cm} - 15\text{ cm}$
$= 18\text{ cm}$

$$\begin{array}{r} {}^{2}\not{3}\,{}^{13}\not{3} \\ -\ 1\ 5 \\ \hline 1\ 8 \end{array}$$

Step 2 : Find the lengths *CD* and *BC*

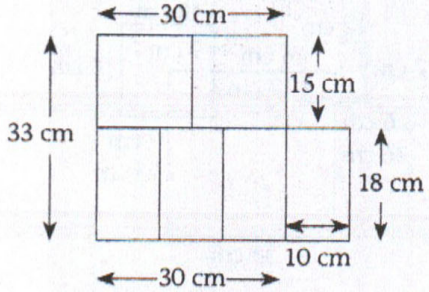
$CD = 2 \times 15\text{ cm} = 30\text{ cm}$

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

$3 \times 10 = 30$

$BC = 30\text{ cm} \div 3 = 10\text{ cm}$

Step 3 : Find the perimeter of the figure



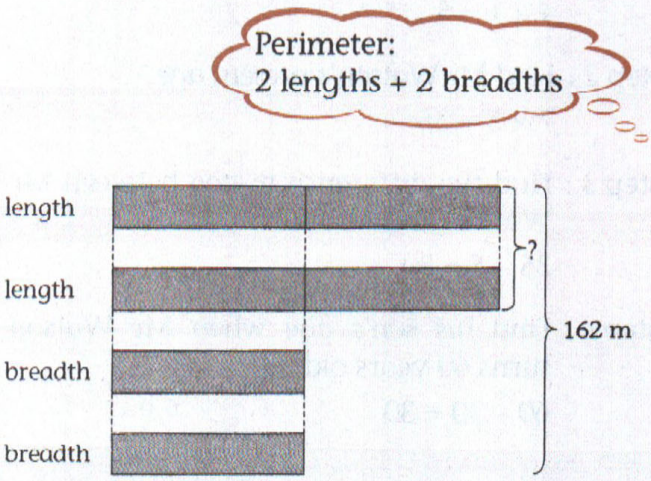
$30\text{ cm} + 15\text{ cm} + 10\text{ cm} + 18\text{ cm} + 10\text{ cm}$
$+ 30\text{ cm} + 33\text{ cm} = 146\text{ cm}$

The perimeter of the figure is 146 cm.

Answer: 146 cm

Solution to Question 89

Step 1 : Draw a model



Step 2 : Find the breadth of the field

6 units → 162 m
1 unit → 162 m ÷ 6 = 27 m

$$\begin{array}{r} 2\ 7 \\ 6\overline{)1\ 6\ 2} \\ -\ 1\ 2\ \downarrow \\ \hline 4\ 2 \\ -\ 4\ 2 \\ \hline 0 \end{array}$$

Step 3 : Find the length of the field

2 units → 2 × 27 m = 54 m

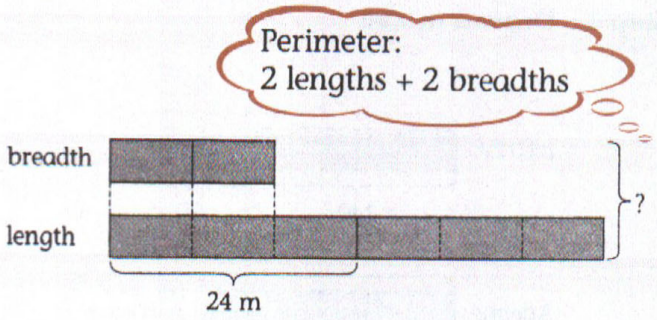
$$\begin{array}{r} {}^{1}2\ 7 \\ \times\ \ 2 \\ \hline 5\ 4 \end{array}$$

The length of the field is 54 m.

Answer: 54 m

Solution to Question 90

Step 1 : Draw a model



Step 2 : Find the breadth of the field

3 × 8 = 24

3 units → 24 m
1 unit → 24 m ÷ 3 = 8 m

Step 3 : Find the perimeter of the field

length + breadth + length + breadth
= 24 m + 8 m + 24 m + 8 m
= 32 m + 32 m
= 64 m

Step 4 : Find the cost to fence the entire field

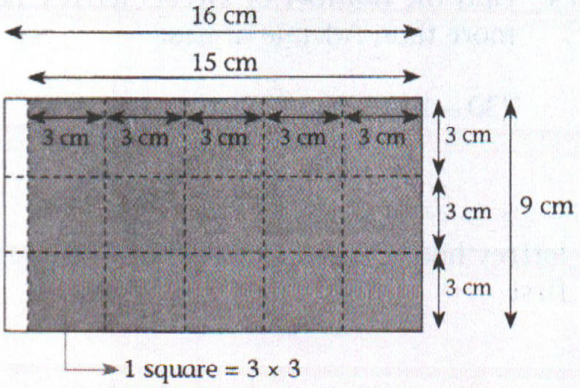
64 m × $8 = $512

$$\begin{array}{r} {\scriptstyle 3}\\ 64\\ \times\ \ 8\\ \hline 512 \end{array}$$

It will cost $512 to fence the entire field.

Answer: $512

Solution to Question 91



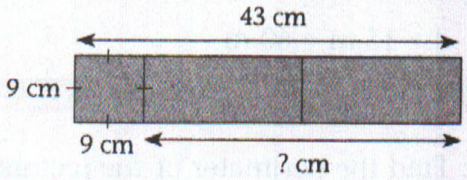
3 rows of squares
Each row → 5 squares (maximum)
3 × 5 = 15

15 squares can be cut out from the rectangle.

Answer: 15 squares

Solution to Question 92

Step 1 : Find the total length of two rectangles



43 cm – 9 cm = 34 cm

Step 2 : Find the total area of the 2 rectangles

34 cm × 9 cm = 306 cm²

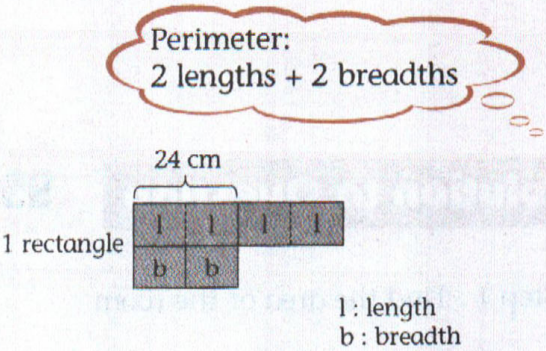
$$\begin{array}{r} {\scriptstyle 3}\\ 34\\ \times\ \ 9\\ \hline 306 \end{array}$$

The total area of 2 rectangles is 306 cm².

Answer: 306 cm²

Solution to Question 93

Step 1 : Draw a model



Step 2 : Find the perimeter of each rectangle

3 × 24 cm = 72 cm

$$\begin{array}{r} {\scriptstyle 1}\\ 24\\ \times\ \ 3\\ \hline 72 \end{array}$$

Step 3 : Find the length of the wire

5 × 72 cm = 360 cm

$$\begin{array}{r} {\scriptstyle 1}\\ 72\\ \times\ \ 5\\ \hline 360 \end{array}$$

The length of the wire is 360 cm.

Answer: 360 cm

Solution to Question 94

Step 1 : Find the perimeter of the square

$4 \times 15 \text{ m} = 60 \text{ m}$

$$\begin{array}{r} {\scriptstyle 2}\,15 \\ \times\ \ 4 \\ \hline 60 \end{array}$$

Step 2 : Find the perimeter of the rectangle

$18 \text{ m} + 5 \text{ m} + 18 \text{ m} + 5 \text{ m} = 46 \text{ m}$

Step 3 : Find half of the length of the wire

$60 \text{ m} + 46 \text{ m} = 106 \text{ m}$

$$\begin{array}{r} 60 \\ +\ 46 \\ \hline 106 \end{array}$$

Step 4 : Find the length of the wire

$2 \times 106 \text{ m} = 212 \text{ m}$

$$\begin{array}{r} {\scriptstyle 1}\,106 \\ \times\ \ 2 \\ \hline 212 \end{array}$$

The length of the whole piece of wire is 212 m.

Answer: 212 m

Solution to Question 95

Step 1 : Find the area of the room

$12 \text{ m} \times 9 \text{ m} = 108 \text{ m}^2$

$$\begin{array}{r} {\scriptstyle 1}\,12 \\ \times\ \ 9 \\ \hline 108 \end{array}$$

Step 2 : Find the total cost of tiling the room

$108 \text{ m}^2 \times \$6 = \$648$

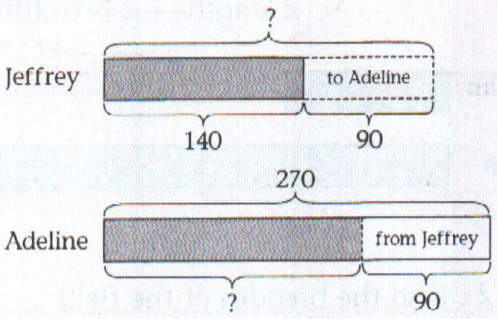
$$\begin{array}{r} {\scriptstyle 4}\,108 \\ \times\ \ 6 \\ \hline 648 \end{array}$$

The total cost of tiling the room is $648.

Answer: $648

Solution to Question 96

Step 1 : Draw a model



Step 2 : Find the number of sweets Jeffrey had at first

$140 + 90 = 230$

$$\begin{array}{r} {\scriptstyle 1} \\ 140 \\ +\ \ 90 \\ \hline 230 \end{array}$$

(a) Jeffrey had 230 sweets at first.

Step 3 : Find the number of sweets Adeline had at first

$270 - 90 = 180$

$$\begin{array}{r} {\scriptstyle 1\ 17} \\ 2\not{7}0 \\ -\ \ 90 \\ \hline 180 \end{array}$$

Step 4 : Find the number of sweets Jeffrey had more than Adeline at first

$230 - 180 = 50$

$$\begin{array}{r} {\scriptstyle 1\ 13} \\ 2\not{3}0 \\ -\ 180 \\ \hline 50 \end{array}$$

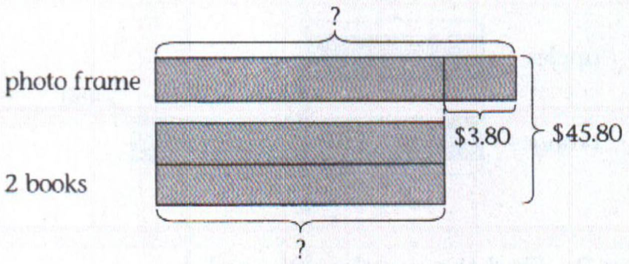
(b) Jeffrey had 50 sweets more than Adeline at first.

Answers: (a) 230 sweets

(b) 50 sweets

Solution to Question 97

Step 1 : Draw a model



Step 2 : Find the value of 3 units

$45.80 – $3.80 = $42

```
  4 5. 8 0
–   3. 8 0
  4 2. 0 0
```

Step 3 : Find the cost of the book

3 units → $42

1 unit → $42 ÷ 3 = $14

```
    1 4
3 ) 4 2
  – 3 ↓
    1 2
  – 1 2
      0
```

(a) The book was $14.

Step 4 : Find the cost of the photo frame

$14 + $3.80 = $17.80

```
  1 4 . 0 0
–   3 . 8 0
  1 7 . 8 0
```

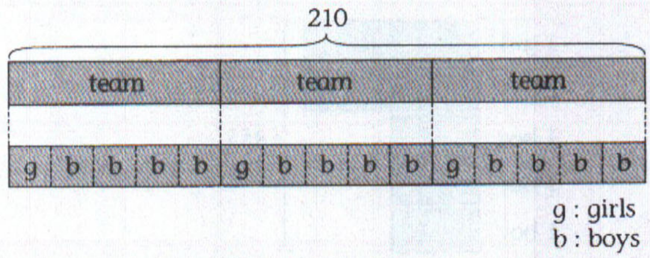
(b) The photo frame was $17.80.

Answers: (a) $14

(b) $17.80

Solution to Question 98

Step 1 : Draw a model



Step 2 : Find the number of children in a team

210 ÷ 3 = 70

```
    7 0
3 ) 2 1 0
  – 2 1 ↓
      0 0
    –   0
        0
```

Step 3 : Find the number of girls in a team

5 units → 70

1 unit → 70 ÷ 5 = 14

```
    1 4
5 ) 7 0
  – 5 ↓
    2 0
  – 2 0
      0
```

Step 4 : Find the total number of girls

3 × 14 = 42

```
  ¹
  1 4
×   3
  4 2
```

(a) There were 42 girls altogether.

Step 5 : Find the total number of boys

210 – 42 = 168

```
  1 10 10
  2  1  0
–    4  2
  1  6  8
```

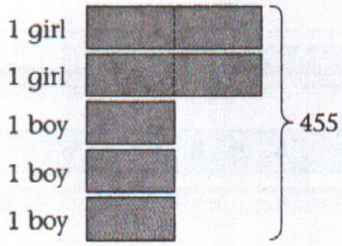
(b) There were 168 boys altogether.

Answers: (a) 42 girls

(b) 168 boys

Solution to Question 99

Step 1 : Draw a model



Step 2 : Find the number of cookies each boy will get

7 units → 455

1 unit → 455 ÷ 7 = 65

$$\begin{array}{r} 65 \\ 7\overline{)455} \\ -42\downarrow \\ \hline 35 \\ -35 \\ \hline 0 \end{array}$$

Step 3 : Find the total number of cookies the girls get

4 units → 4 × 65 = 260

$$\begin{array}{r} {\scriptstyle 2} \\ 65 \\ \times\ 4 \\ \hline 260 \end{array}$$

(a) The girls get 260 cookies altogether.

Step 4 : Find the total number of cookies the boys get

3 units → 3 × 65 = 195

$$\begin{array}{r} {\scriptstyle 1} \\ 65 \\ \times\ 3 \\ \hline 195 \end{array}$$

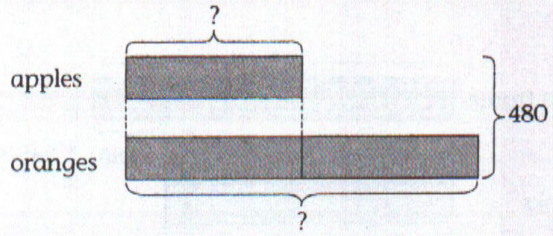
(b) The boys get 195 cookies altogether.

Answers: (a) 260 cookies

(b) 195 cookies

Solution to Question 100

Step 1 : Draw a model



Step 2 : Find the number of apples

3 units → 480

1 unit → 480 ÷ 3 = 160

$$\begin{array}{r} 160 \\ 3\overline{)480} \\ -3\downarrow \\ \hline 18 \\ -18\downarrow \\ \hline 00 \\ -\ 0 \\ \hline 0 \end{array}$$

(a) There were 160 apples.

Step 3 : Find the number of oranges

2 units → 2 × 160 = 320

$$\begin{array}{r} {\scriptstyle 1} \\ 160 \\ \times\ 2 \\ \hline 320 \end{array}$$

(b) There were 320 oranges.

Answers: (a) 160 apples

(b) 320 oranges

Solution to Question 101

Step 1 : Find the area of the rectangular plot of land

45 m × 9 m = 405 m²

$$\begin{array}{r} {\scriptstyle 4} \\ 45 \\ \times\ 9 \\ \hline 405 \end{array}$$

Step 2 : Find the area of the grass patch

8 m × 8 m = 64 m²

Step 3 : Find the area of land not covered by the swimming pool and grass patch

405 m² − 250 m² = 155 m²

$$\begin{array}{r} {\scriptstyle 3}\ {\scriptstyle 10} \\ 4\,\not{0}\,5 \\ -\ 250 \\ \hline 155 \end{array}$$

155 m² − 64 m² = 91 m²

$$\begin{array}{r} {\scriptstyle 0}\ {\scriptstyle 15} \\ 1\,\not{5}\,5 \\ -\ 64 \\ \hline 91 \end{array}$$

91 m² of the land is not covered by the swimming pool and grass patch.

Answer: 91 m²