In Step MATHS

WORKBOOK 6B EM1/2

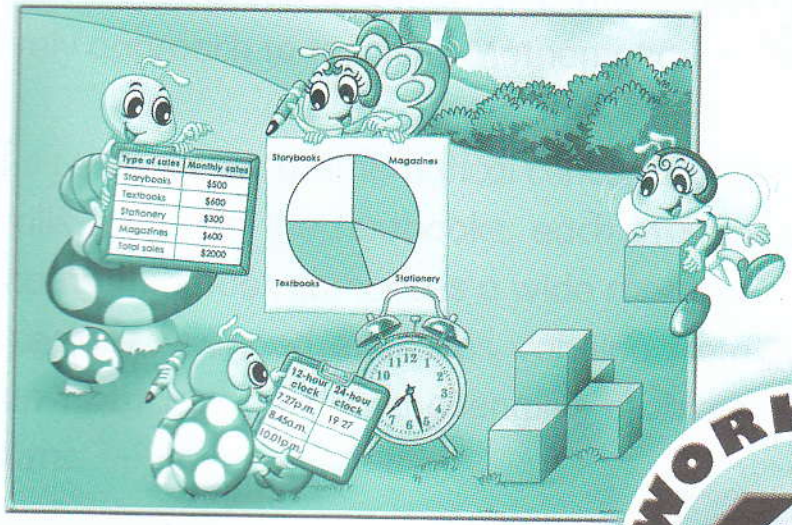
Dr Lai Chee Chong
Leong Weng Kee
General Editor: Sin Kwai Meng

SNP Panpac

Name: Class:

Part Two

In Step MATHS



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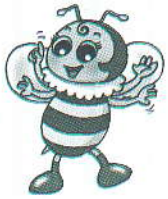
Preface

In Step Maths is a series of textbooks and accompanying workbooks specially written to meet the mathematical needs of primary school pupils.

This series adopts a learner-centred and lively approach to teaching Mathematics.

To reinforce the mathematical concepts and skills taught in the textbooks, each In Step Maths workbook comprises a wide range of specially designed exercises, ranging from fun-filled activities to challenging problem sums.

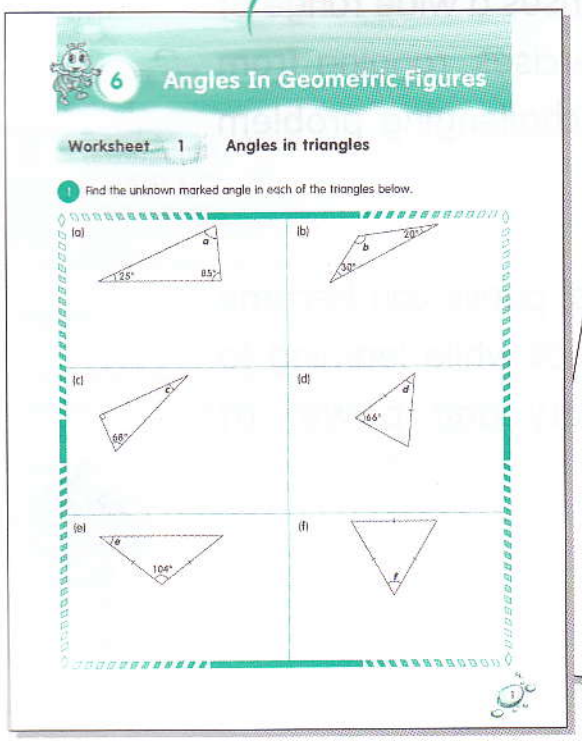
Through In Step Maths, pupils can become proficient in Mathematics while learning to appreciate the beauty and power of the subject.



About The Book

This workbook adopts a structured approach in reinforcing the concepts and skills learnt in the textbook. Practice comes in the form of worksheets, skill practices, revision papers and examination papers. Each worksheet focuses on specific skills. A Skill Practice is found at the end of every chapter to consolidate what has been learnt in that chapter. The workbook also contains revision and examination papers to provide for further practice and to assess pupils' understanding.

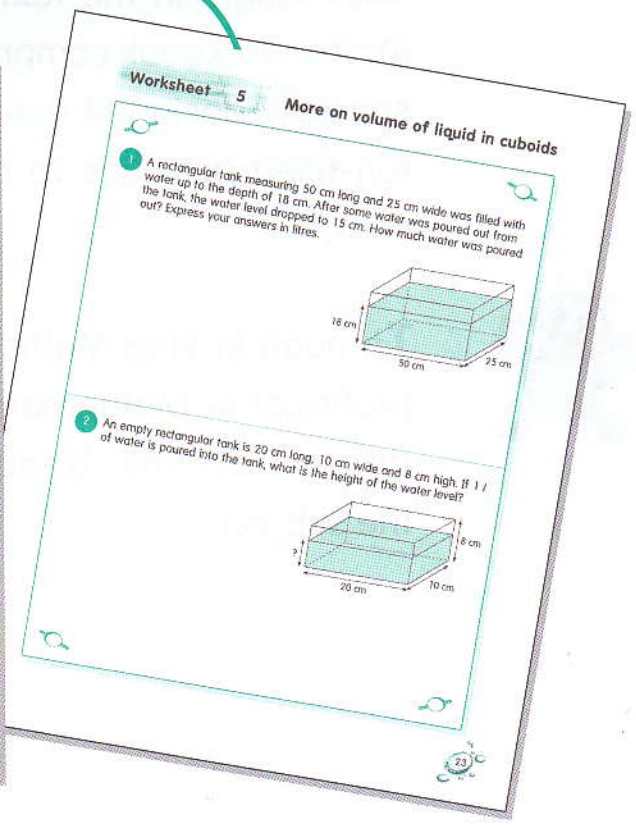
Worksheets


6 Angles In Geometric Figures

Worksheet 1 Angles in triangles

1 Find the unknown marked angle in each of the triangles below.

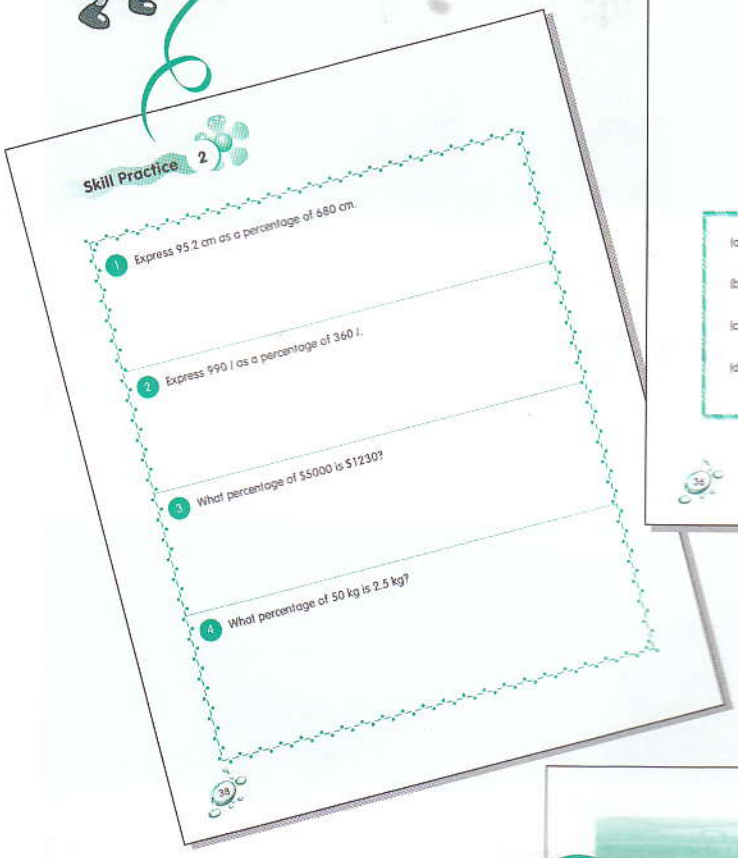
(a) (b) (c) (d) (e) (f)


Worksheet 5 More on volume of liquid in cuboids

1 A rectangular tank measuring 50 cm long and 25 cm wide was filled with water up to the depth of 18 cm. After some water was poured out from the tank, the water level dropped to 15 cm. How much water was poured out? Express your answers in litres.

2 An empty rectangular tank is 20 cm long, 10 cm wide and 8 cm high. If 1 l of water is poured into the tank, what is the height of the water level?

Skill Practice



Skill Practice 2

1. Express 95 2 cm as a percentage of 680 cm.
2. Express 990 l as a percentage of 360 l.
3. What percentage of $5000 is $1230?
4. What percentage of 50 kg is 2.5 kg?

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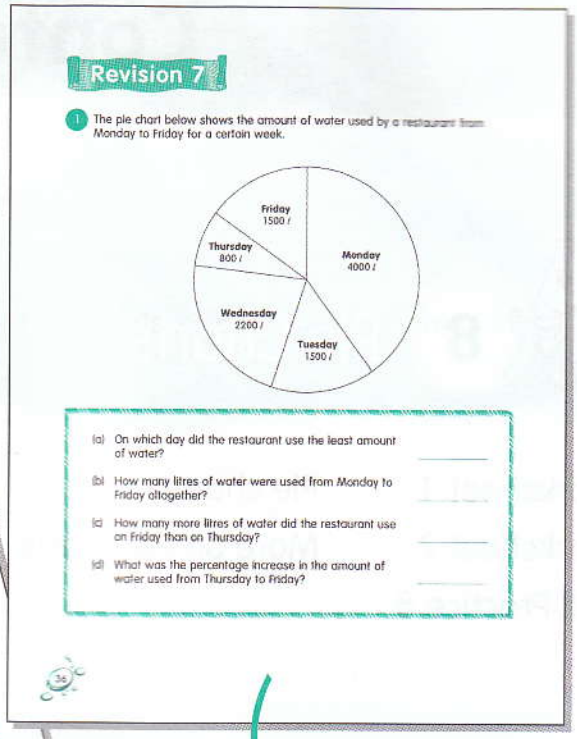

Revision 7

1. The pie chart below shows the amount of water used by a restaurant from Monday to Friday for a certain week.

(a) On which day did the restaurant use the least amount of water? _____

(b) How many litres of water were used from Monday to Friday altogether? _____

(c) How many more litres of water did the restaurant use on Friday than on Thursday? _____

(d) What was the percentage increase in the amount of water used from Thursday to Friday? _____

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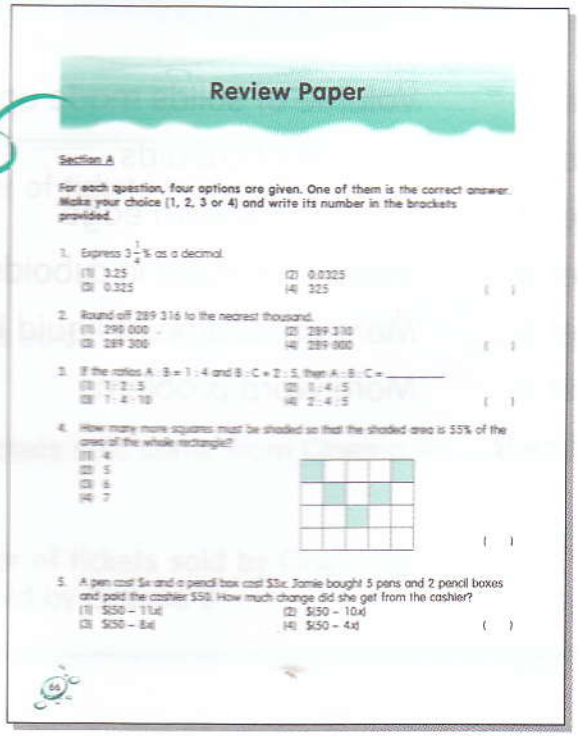
Revision Paper

Review Paper



Review Paper

Section A

For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write its number in the brackets provided.

1. Express $3\frac{1}{4}\%$ as a decimal.
   (1) 3.25 (2) 0.0325
   (3) 0.325 (4) 325 ( )

2. Round off 289 316 to the nearest thousand.
   (1) 290 000 (2) 289 310
   (3) 289 300 (4) 289 000 ( )

3. If the ratios A : B = 1 : 4 and B : C = 2 : 5, then A : B : C = _____
   (1) 1 : 2 : 5 (2) 1 : 4 : 5
   (3) 1 : 4 : 10 (4) 2 : 4 : 5 ( )

4. How many more squares must be shaded so that the shaded area is 55% of the area of the whole rectangle?
   (1) 4
   (2) 5
   (3) 6
   (4) 7

( )

5. A pen cost $x and a pencil box cost $3x. Jamie bought 5 pens and 2 pencil boxes and paid the cashier $50. How much change did she get from the cashier?
   (1) $50 − 11x (2) $50 − 10x
   (3) $50 − 8x (4) $50 − 4x ( )

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Contents

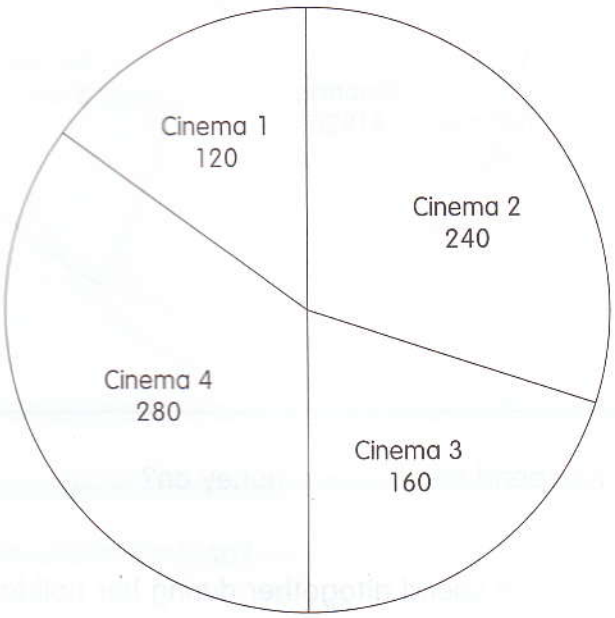
8 Pie Charts

9 Volume

8 Pie Charts

Worksheet 1 Pie charts

1 The pie chart below shows the number of tickets sold by the 4 cinemas in a cineplex for a certain evening.



(a) What was the total number of tickets sold by the 4 cinemas? _____

(b) What fraction of the tickets sold came from Cinema 1? _____

(c) What percentage of the tickets sold came from Cinema 4? _____

(d) Find the ratio of the number of tickets sold by Cinema 3 to the number of tickets sold by Cinema 2. _____

2 Lily went on a holiday. The pie chart below shows how she spent her money.

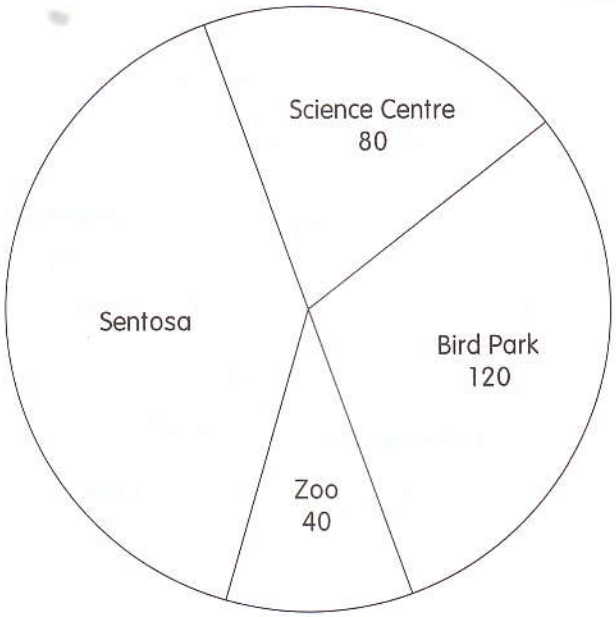
(a) What did she spend most of her money on? _____

(b) How much did she spend altogether during her holiday? _____

(c) What fraction of her money did she spend on food? _____

(d) Find the ratio of the amount of money spent on airfare to the amount of money spent on food. _____

3 A group of 400 pupils was asked to choose their favourite place of interest among the following 4 places: Zoo, Bird Park, Science Centre and Sentosa. The pie chart below shows their choices.



(a) How many pupils chose Sentosa? _____

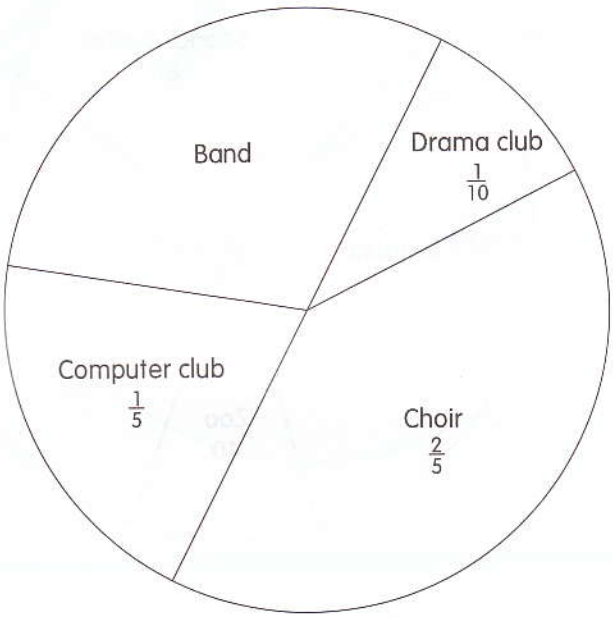
(b) What fraction of the pupils chose the Science Centre? _____

(c) What percentage of the pupils chose the Bird Park? _____

(d) How many times as many pupils chose the Bird Park as the Zoo? _____

Worksheet 2 More on pie charts

1 A group of pupils was asked to write down the CCA that they joined. The pie chart below shows the results.



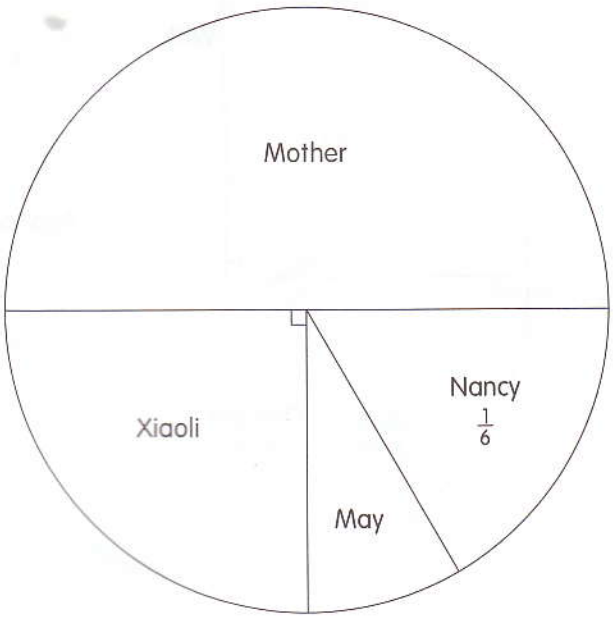
(a) Which CCA was the least popular? _____

(b) What fraction of the pupils joined the Band? _____

(c) What percentage of the pupils joined the Choir? _____

(d) If 70 pupils joined the Computer club, how many pupils joined the Drama club? _____

2 Ming had $900. He divided the sum of money among his mother and 3 sisters Nancy, May and Xiaoli. The pie chart below represents the amount of money each of them received.



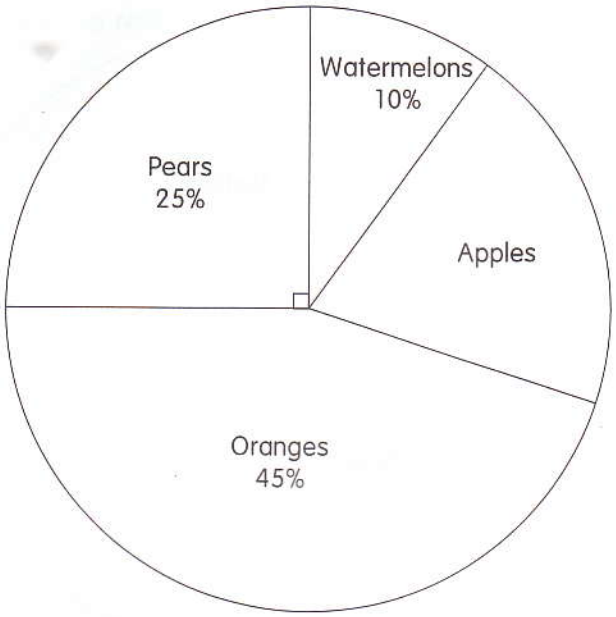
(a) How much money did Nancy receive? _____

(b) What fraction of the money did Ming's mother receive? _____

(c) What fraction of the money did May receive? _____

(d) What percentage of the money did Xiaoli receive? _____

3 A fruit stall sold 200 fruits on a certain day. The pie chart below shows the quantity of each type of fruits sold.



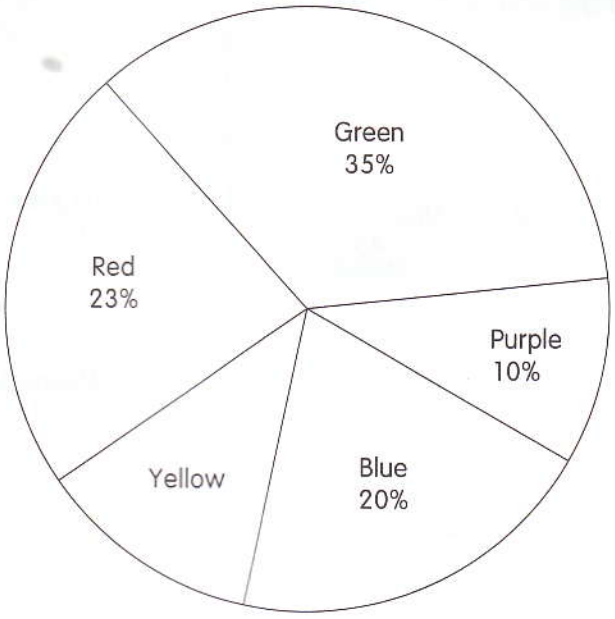
(a) Which fruit was the least popular? _____

(b) How many oranges were sold? _____

(c) What fraction of the fruits sold were pears? _____

(d) What was the ratio of the number of pears sold to the number of apples sold? _____

4 A toy shop sold balls in 5 different colours. The pie chart below represents the quantity of each type of balls sold in a month.



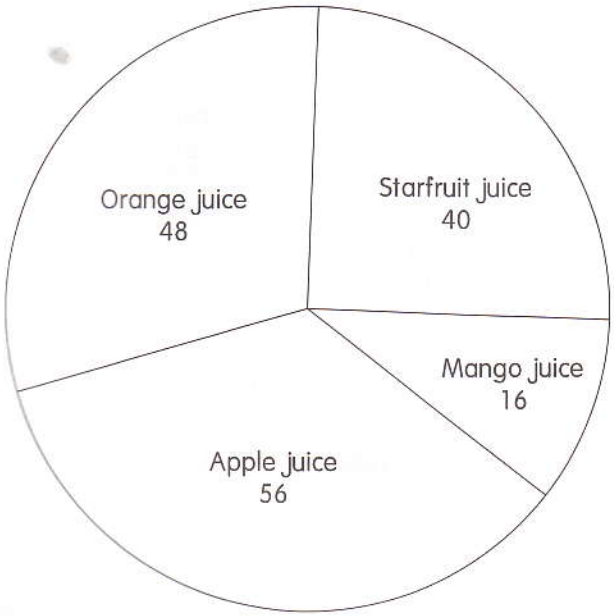
(a) What percentage of the balls sold were yellow? _____

(b) Which type of ball had the most sales? _____

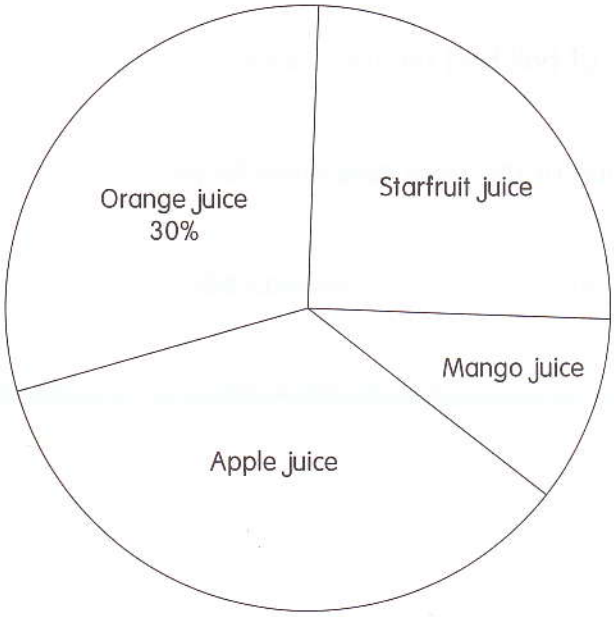
(c) What fraction of the balls sold were blue? _____

(d) If the total number of balls sold was 600, how many red balls were sold? _____

5 A group of 160 children was asked to choose their favourite fruit juice. The pie chart below represents their choices.

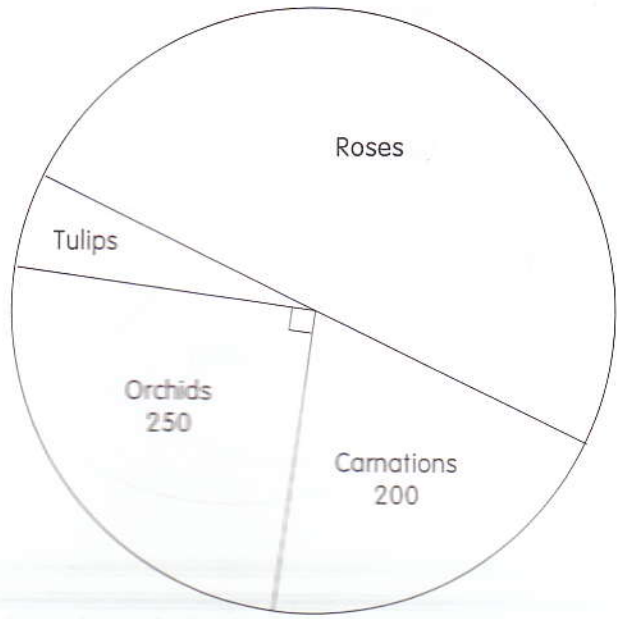


Find the percentage for each type of fruit juice chosen and write it on the pie chart below.



Skill Practice 8

1 A florist sold 1000 stalks of flowers on a certain day. The pie chart below shows the number of each type of flowers sold.



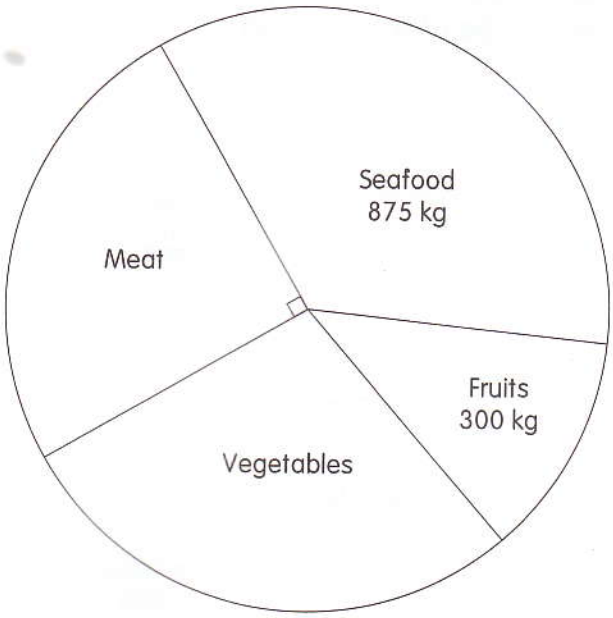
(a) How many tulips were sold? _____

(b) What fraction of the flowers sold were carnations? _____

(c) What percentage of the flowers sold were orchids? _____

(d) Find the ratio of the number of carnations sold to the number of roses sold. _____

2 A restaurant purchased 2500 kg of different types of food last week. The pie chart below represents the mass of each type of food purchased.



(a) How many kilograms of meat were purchased? _____

(b) How many kilograms of vegetables were purchased? _____

(c) What percentage of the mass of food purchased was fruits? _____

(d) What fraction of the mass of food purchased was seafood? _____

3 The pie chart below shows the different types of buns Mrs Lee baked.

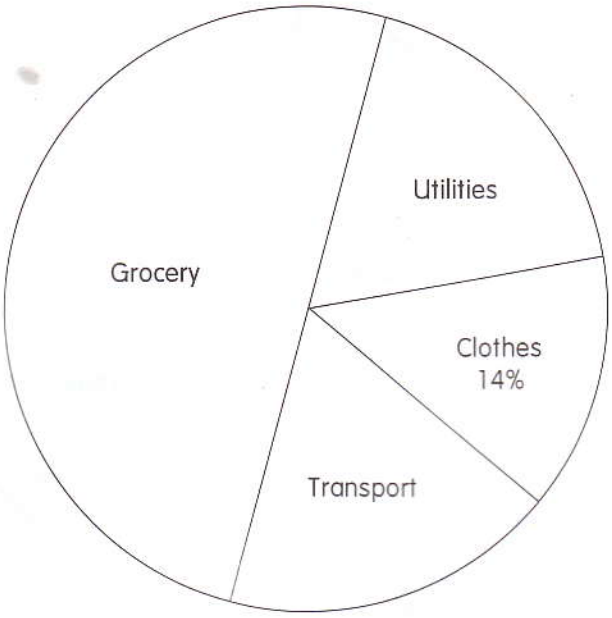
(a) What fraction of the buns baked were chicken buns and cheese buns? _____

(b) What fraction of the buns baked was tuna buns? _____

(c) What percentage of the buns baked was vegetable buns? _____

(d) If Mrs Lee baked 36 cheese buns, how many tuna buns did she bake? _____

4 The pie chart below shows how Devi spent her salary for the month of March. The amount of money spent on transport was the same as that spent on utilities.



(a) What did she spend most of her salary on? _____

(b) What fraction of her salary was spent on clothes? _____

(c) What percentage of her salary was spent on both transport and utilities? _____

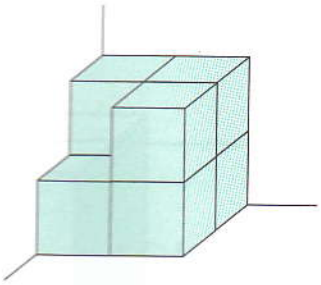
(d) What was the difference in percentage between the amount of money spent on grocery and the amount of money spent on both transport and utilities? _____

9 Volume

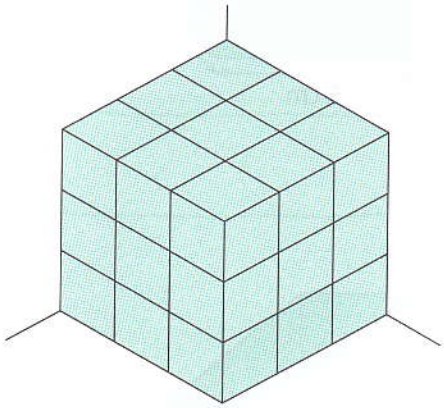
Worksheet 1 Volume of solids made up of cubes

1 Each of the following solids is made up of 1-cm cubes. Find the volume of each solid.

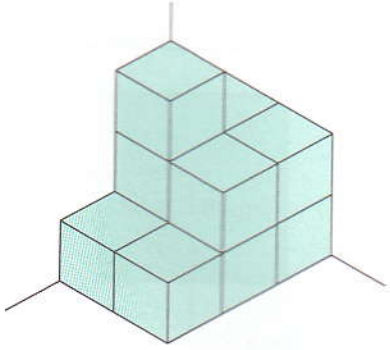
(a)



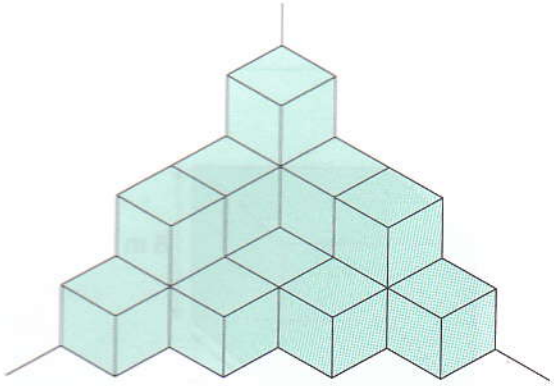
(b)



(c)



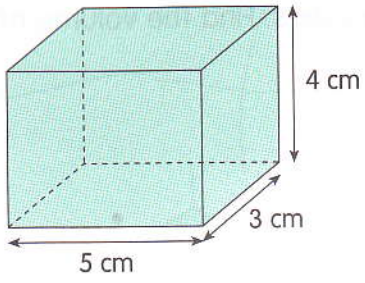
(d)



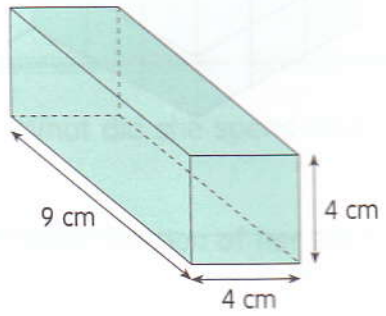
Worksheet 2 Volume of cuboids

1 Find the volume of the following cuboids.

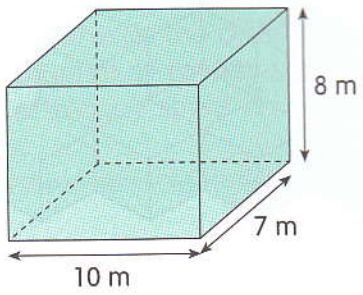
(a)



(b)

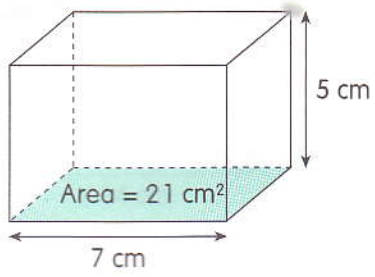


(c)

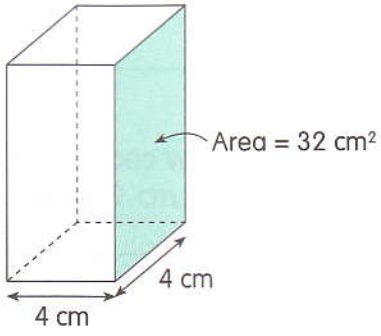


2 Find the volume of the following cuboids.

(a)



(b)



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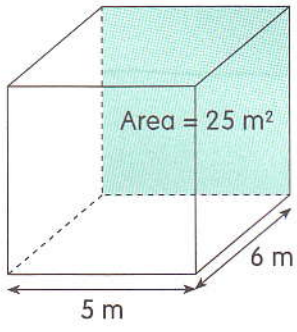
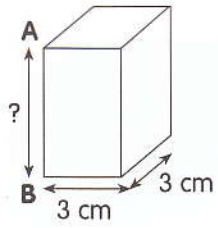


Worksheet 3 Finding unknown edge

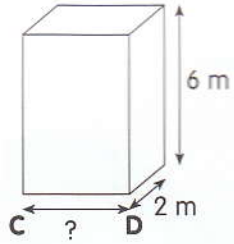
1 Find the unknown side of each cuboid, given its volume.

(a)



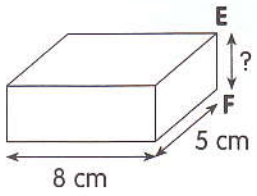
Volume = 45 cm^3
AB =

(b)



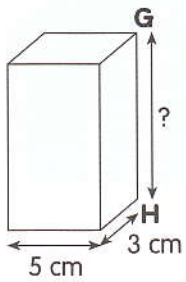
Volume = 48 m^3
CD =

(c)



Volume = 120 cm^3
EF =

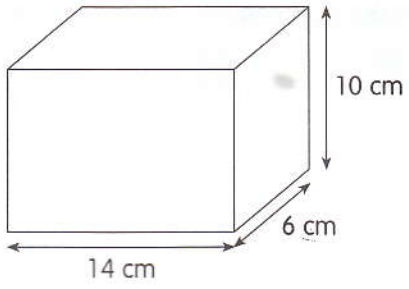
(d)



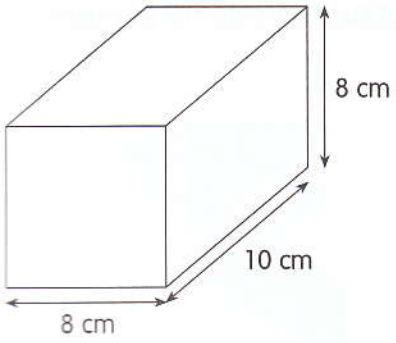
Volume = 135 cm^3
GH =

2 How many cubes of side 2 cm are needed to fill up the following cuboids?

(a)



(b)

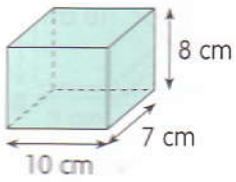


3 Twelve cubes will completely fill up the base of a rectangular box measuring 12 cm by 9 cm. What is the length of each side of the cube?

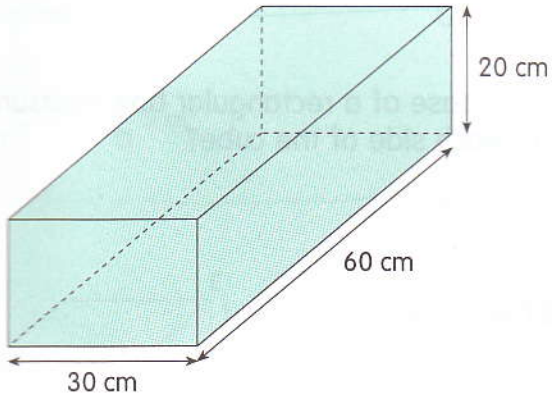
Worksheet 4 Volume of liquid in cuboids

1 Find the volume of water in each of these tanks in litres.

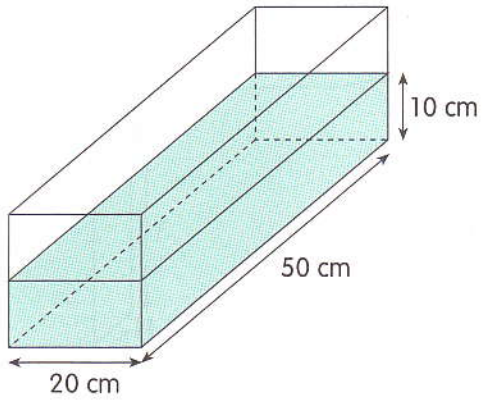
(a)



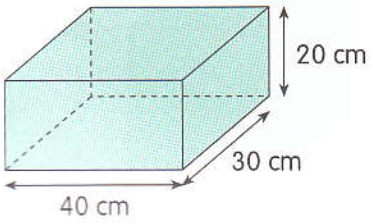
(b)



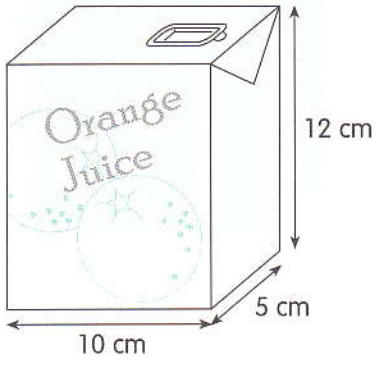
(c)



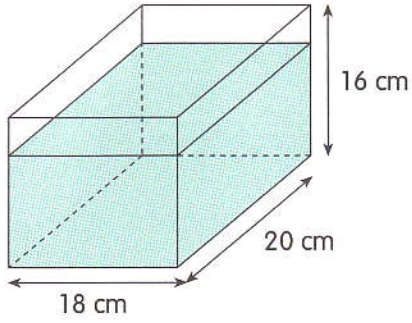
2 A rectangular tank measures 40 cm by 30 cm by 20 cm. If the tank is filled to the brim with water, what is the volume of water in the tank? Express your answer in litres.



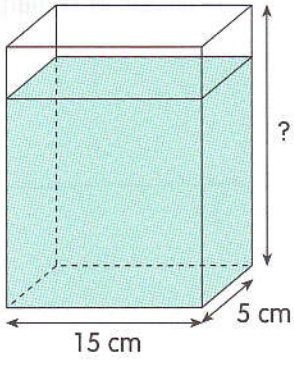
3 A drink packet measures 10 cm by 5 cm by 12 cm. It is $\frac{2}{3}$ filled with orange juice. Find the volume of orange juice in the drink packet. Give your answer in millilitres.



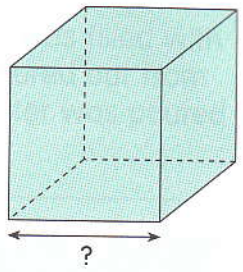
4 A fish tank, measuring 18 cm by 20 cm by 16 cm, is $\frac{3}{4}$ filled with water. Find the volume of the water in the fish tank in litres.



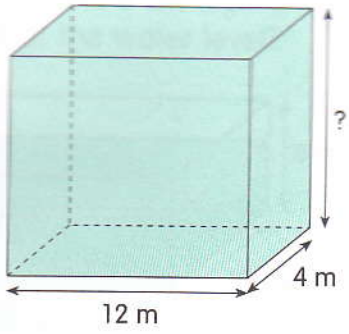
5 A rectangular container, 15 cm long and 5 cm wide contains 1200 cm^3 of water when it is $\frac{4}{5}$ full. Find the height of the container.



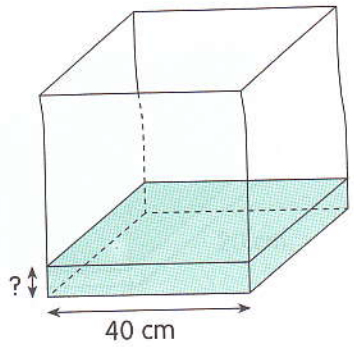
6 A cubic container has 512 ml of water when completely filled. Find the length of one edge of the container.



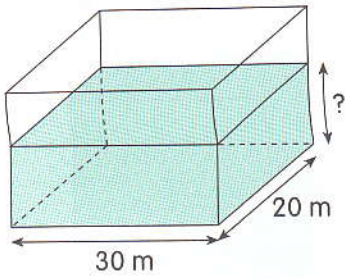
7 A rectangular cuboid contains 528 m^3 of water when it is full. What is the height of the container if the length is 12 m and the breadth is 4 m?



8 A cubic container contains 9.6 l of water. If the length of each edge of the container is 40 cm, find the height of the water level in the container.

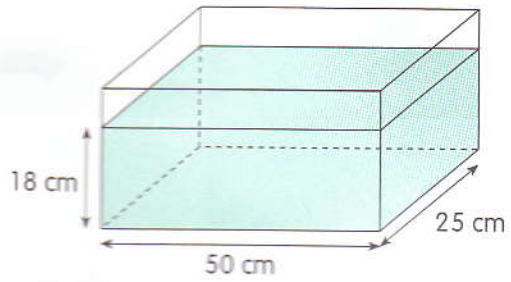


9 A rectangular container with a base measuring 30 m by 20 m, contains 8100 m^3 of water. Find the height of the water level in the tank.

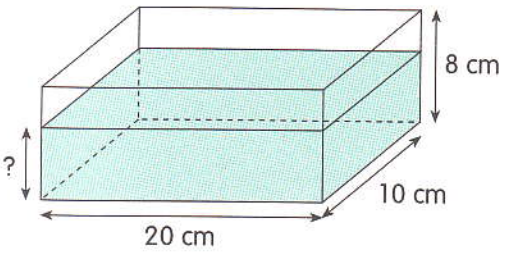


Worksheet 5 More on volume of liquid in cuboids

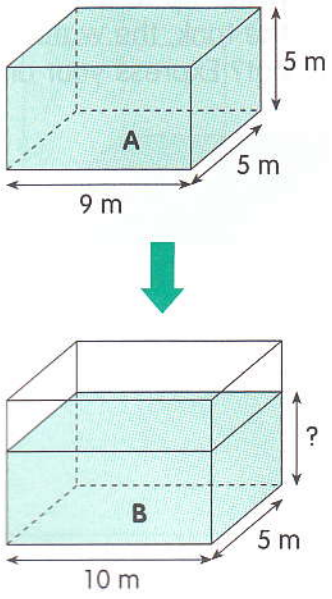
1. A rectangular tank measuring 50 cm long and 25 cm wide was filled with water up to the depth of 18 cm. After some water was poured out from the tank, the water level dropped to 15 cm. How much water was poured out? Express your answers in litres.



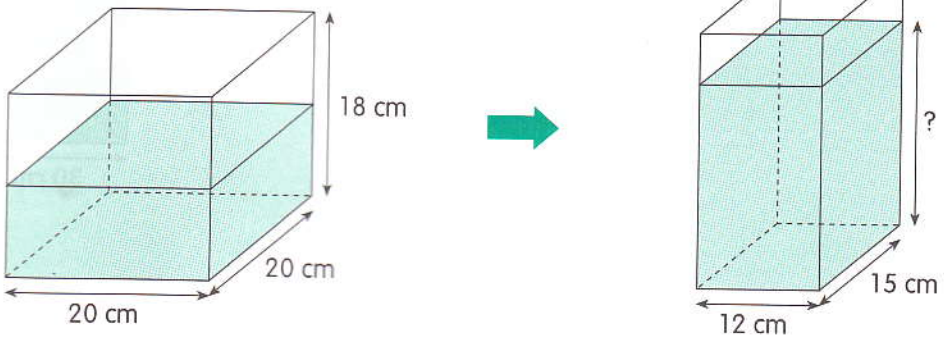
2. An empty rectangular tank is 20 cm long, 10 cm wide and 8 cm high. If 1 l of water is poured into the tank, what is the height of the water level?



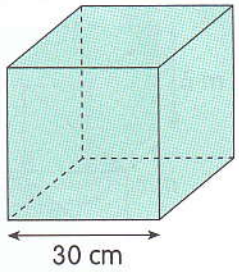
3 A rectangular container A measuring 9 m by 5 m by 5 m is completely filled with water. All the water from container A is poured into an empty rectangular container B, measuring 10 m by 5 m. What is the height of the water level in container B?



4 A rectangular container is 20 cm long, 20 cm wide and 18 cm high. It is half filled with water. If the water is poured into another rectangular container which is 12 cm long and 15 cm wide, what will be the height of the water level in the second tank?



5 A cubic tank measuring 30 cm by 30 cm by 30 cm is completely filled with water. Water is poured out at a rate of 1000 cm^3 per minute. How long does it take to empty the whole container?

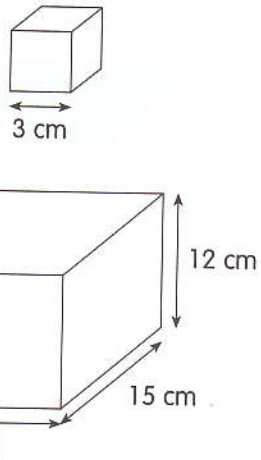


6 An empty rectangular container measures 15 cm by 5 cm by 8 cm. When a tap is turned on, water drips into it at a rate of 25 ml per minute. How long will it take to fill up the whole container?

Worksheet 6 More word problems

1. The length of a glass block is 8 cm. Its breadth is 3 cm shorter than its length. The thickness of the glass block is 2 cm more than its breadth. Find the volume of the glass block.

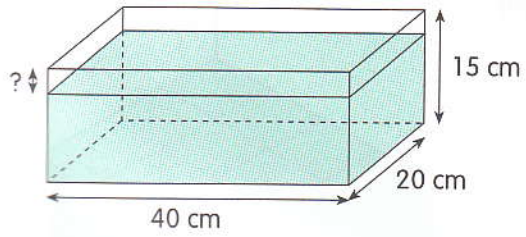
2. A box measures 18 cm by 15 cm by 12 cm. 90 cubes each of side 3 cm each are put inside this box. How many more such cubes are needed to fill up the box completely?



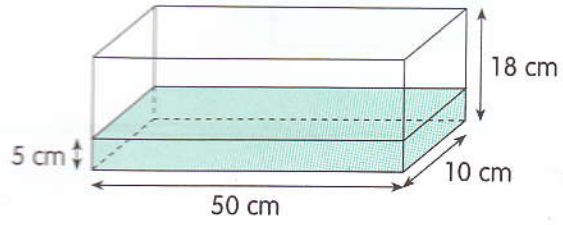
3 Eight cubes will completely fill up the base of a rectangular container, measuring 2 cm by 4 cm. Find the length of the edge of each cube.

4 A bottle contains 5100 ml of syrup. If this syrup is poured into small containers, each with a capacity of 200 cm^3, what will be the largest number of small containers that will be completely filled with syrup?

5 10 ℓ of water is poured into an empty rectangular tank. The rectangular tank is 40 cm long, 20 cm wide and 15 cm high. How much more water is required to fill the tank with water to its brim?



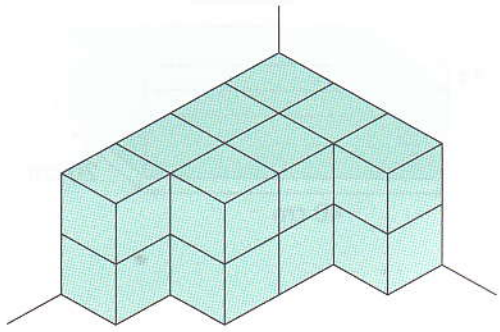
6 A rectangular tank measuring 50 cm long, 10 cm wide and 18 cm high contains water up to a height of 5 cm. Another 2 ℓ of water is poured into the tank. What is the new height of the water level in the tank now?



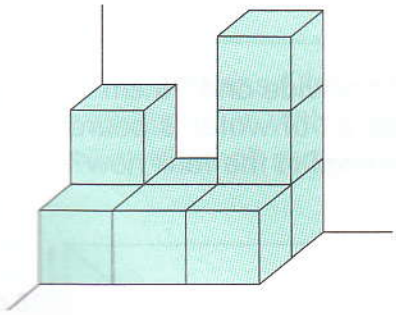
Skill Practice 9

1 Each of the following solids is made up of several 1-cm cubes. Find the volume of each solid.

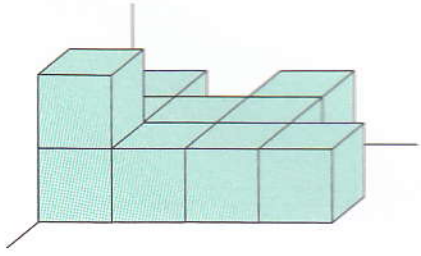
(a)



(b)

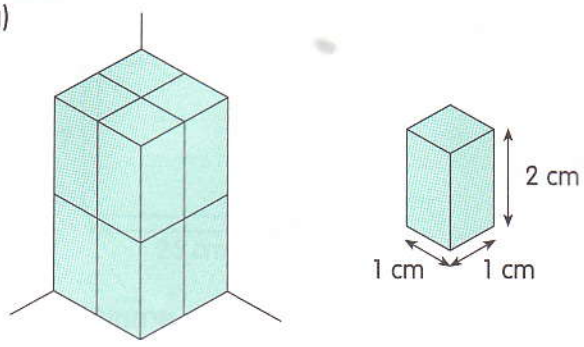


(c)

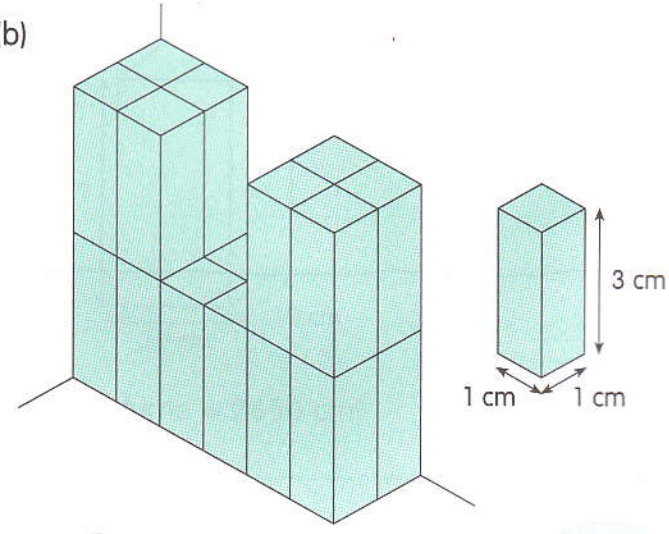


2 Each of the following solids is made up of several cuboids. The basic cuboid is shown next to each solid. Find the volume of each solid.

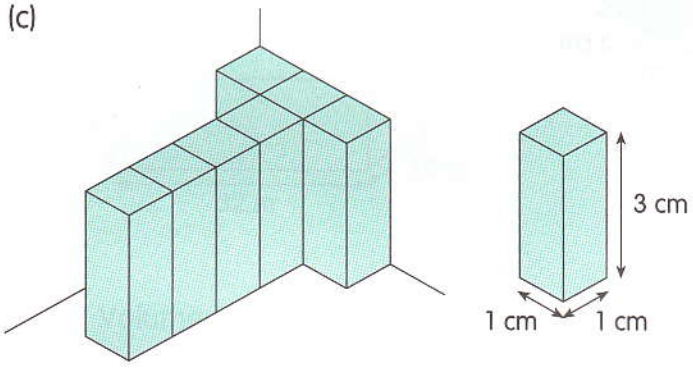
(a)



(b)

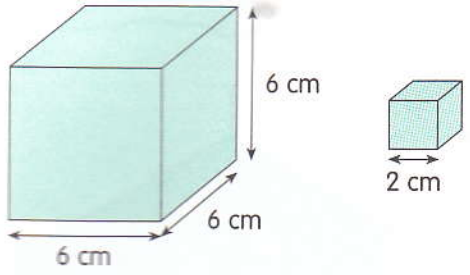


(c)

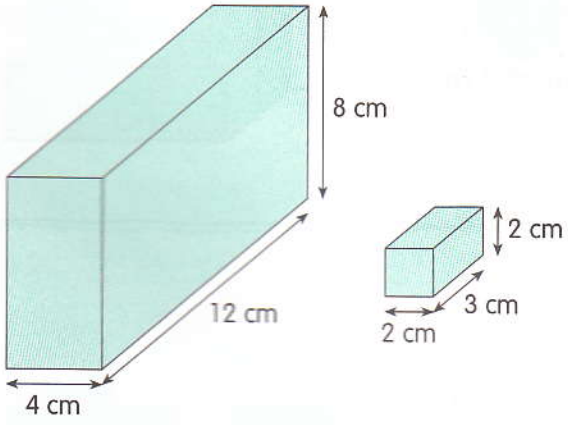


3 Each of the following blocks below is made from a basic cube/cuboid shown on the right. How many such cubes/cuboids are needed to build the solid?

(a)

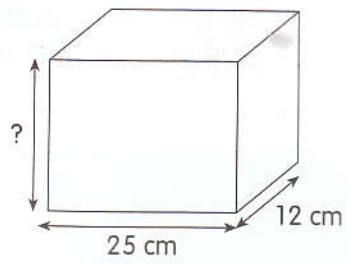


(b)



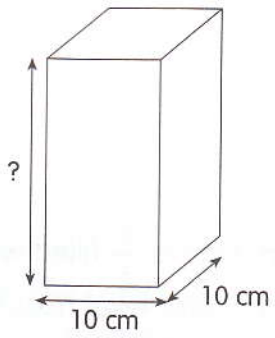
4 Find the height of each of the following cuboids.

(a)



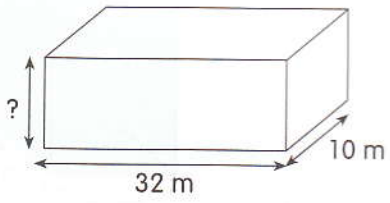
Volume = 6 l

(b)



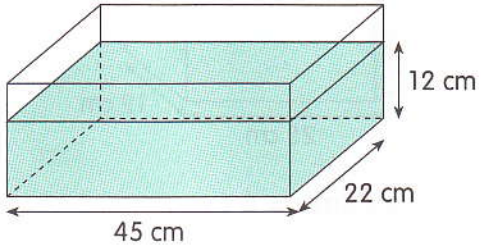
Volume = 2650 cm^3

(c)

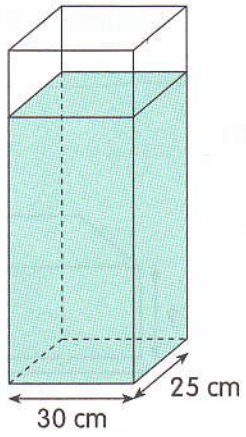


Volume = 2880 m^3

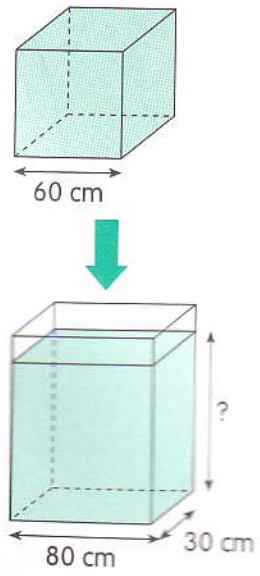
5 A rectangular tank is 45 cm long and 22 cm wide. It is filled with water up to a height of 12 cm. When some more water is added, the water level rises to 15 cm. What is the volume of water added? Give your answer in litres.



6 A rectangular tank measuring 30 cm long and 25 cm wide is $\frac{4}{5}$ filled with water. When 12 l of water is added into the tank, the water level rises to the brim of the tank. Find the height of the tank.



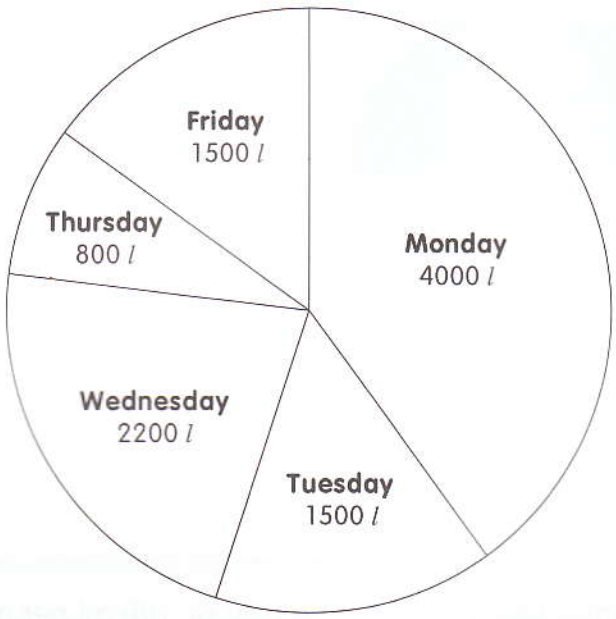
7 Water from a cubic container of length 60 cm is poured into a rectangular container which is 80 cm long and 30 cm wide. What will be the height of the water level in the second tank?



8 Water from a tap is flowing at a rate of 100 ml per minute into a rectangular fish tank. The fish tank measures 40 cm long, 25 cm wide and 10 cm high. How long does it take to fill up the fish tank? Give your answer in hours and minutes.

Revision 7

1 The pie chart below shows the amount of water used by a restaurant from Monday to Friday for a certain week.



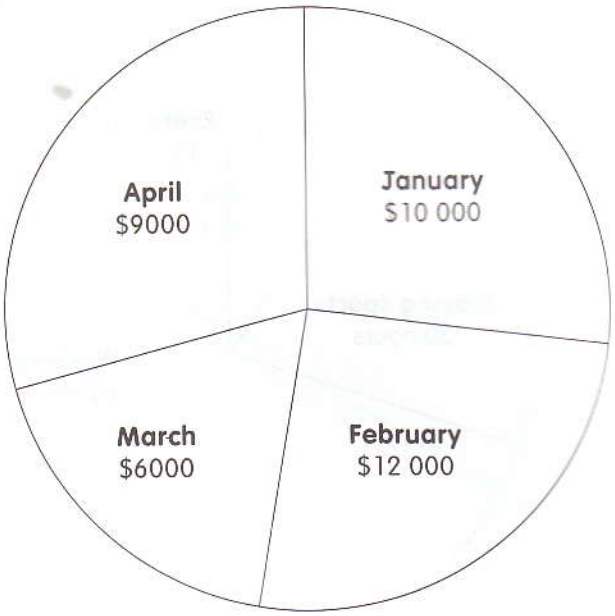
(a) On which day did the restaurant use the least amount of water? _____

(b) How many litres of water were used from Monday to Friday altogether? _____

(c) How many more litres of water did the restaurant use on Friday than on Thursday? _____

(d) What was the percentage increase in the amount of water used from Thursday to Friday? _____

2 The pie chart below shows the amount of money collected by a charity organisation during the first 4 months of a particular year.



(a) Which month had the highest collection? _____

(b) What was the total amount of money collected during these 4 months? _____

(c) What was the average amount of money collected monthly during the 4 months? _____

(d) Which month's collection was half the amount of money collected in February? _____

3 The pie chart shows the number of hours Mr Tan spent on 5 activities during a particular week.

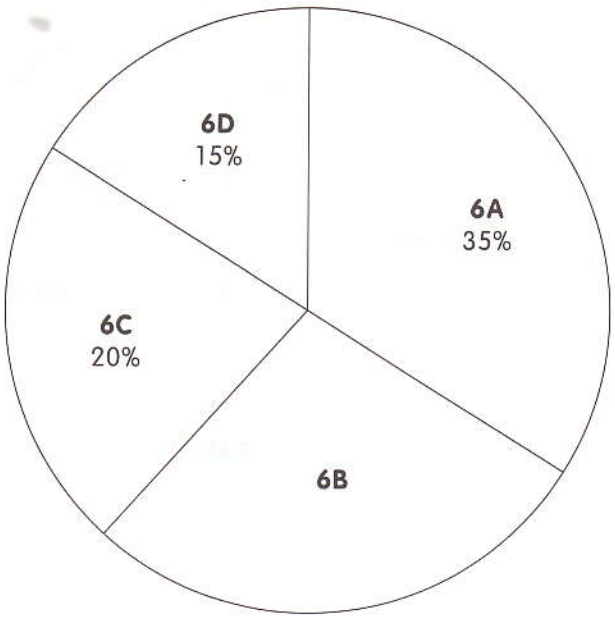
(a) What was the total number of hours Mr Tan spent on these 5 activities? _____

(b) What fraction of the total number of hours was spent on work? _____

(c) What percentage of the time did he spend driving? _____

(d) What was the ratio of the number of hours he spent exercising to the number of hours he spent sleeping? _____

4 The pupils of four Primary Six classes, 6A, 6B, 6C and 6D, collected old newspapers for charity during the December holidays. The pie chart below shows the percentage of the total collection collected by each class.



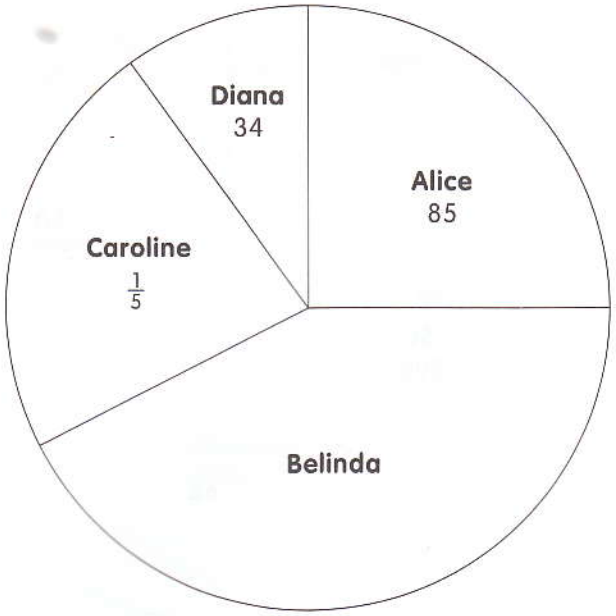
(a) What percentage of the total collection was collected by Class 6B? _____

(b) Which class collected the most old newspapers? _____

(c) What fraction of the total newspapers were collected by Class 6D? _____

(d) If Class 6C collected 30 kg of newspapers, what was the total mass of newspapers collected by all the classes? _____

5 Alice, Belinda, Caroline and Diana collected a total of 340 stamps. The pie chart below shows the number of stamps collected by each of them.



(a) What fraction of the total number of stamps was Diana's collection? _____

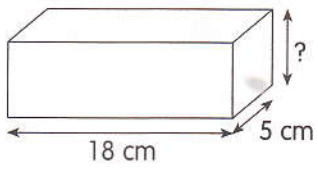
(b) What percentage of the total number of stamps was Alice's collection? _____

(c) How many stamps did Caroline collect? _____

(d) How many stamps did Belinda collect? _____

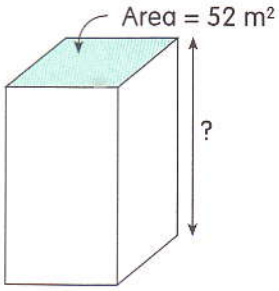
6 Find the heights of the following cuboids.

(a)



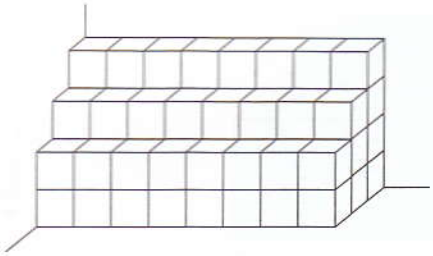
Volume = 540 cm^3

(b)



Volume = 676 m^3

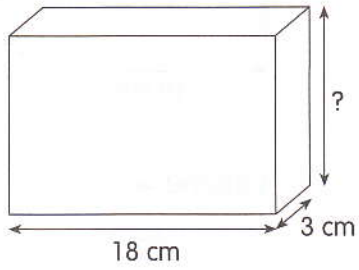
7 The following solid figure is made up of identical cubes. 30% of the cubes give a volume of 2700 cm^3.



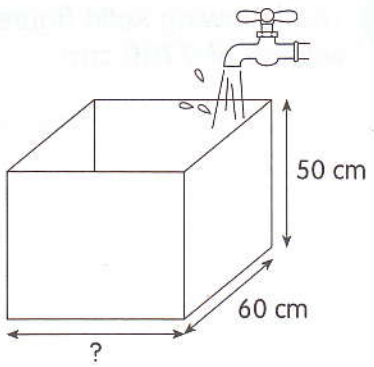
(a) How many cubes are used to make the solid figure? _____

(b) Find the length of each cube. _____

8 The height of the cuboid shown below is $\frac{2}{3}$ of its length. Find the volume of the cuboid.



9 A tap filled an empty tank at a rate of 4 *l*/min. It took 45 minutes to fill the tank to the brim. Find the length of the tank.

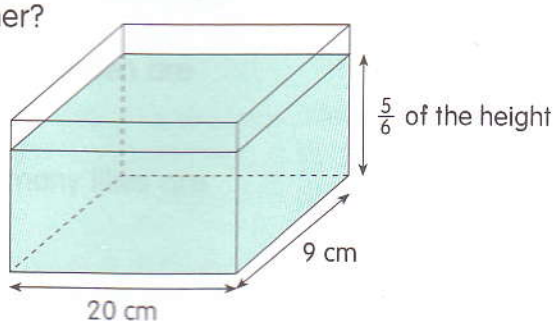


10 An empty swimming pool measures 50 m long, 20 m wide and 4 m deep. Water is pumped into it at a rate of 20 m^3/min for 1 hour 30 minutes. What is the height of the water level measured from the bottom of the pool?

11 A rectangular container measures 20 cm long and 9 cm wide. It is filled with water where the water level is $\frac{5}{6}$ of the height of the container. The volume of water is 1800 cm^3.

(a) What is the capacity of the container?

(b) What is the height of the container?



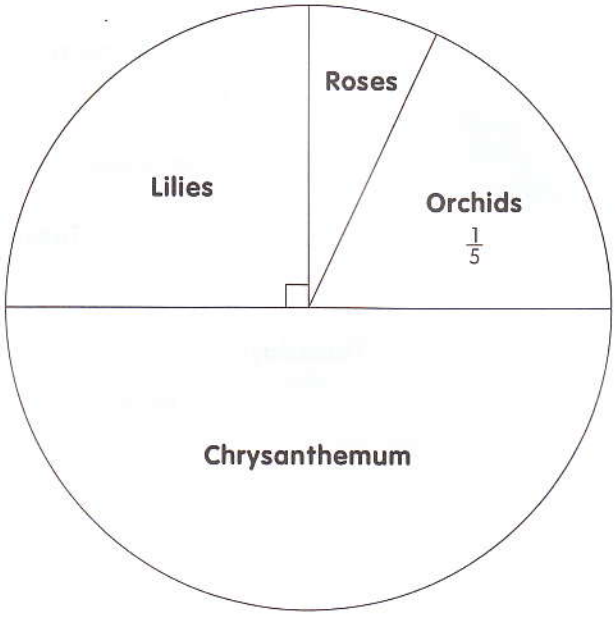
12 Water flows from 2 taps A and B to fill a bath tub. Water flows from tap A at a rate of 12 l per minute. Water flows from tap B at a rate of 18 l per minute.

(a) If the two taps have been turned on at the same time for 5 minutes, how much water is there in the bath tub?

(b) The bath tub has a capacity of 200 l. What percentage of it has been filled?

Revision 8

1 The pie chart below shows the different kinds of flowers grown in Mr Li's garden.



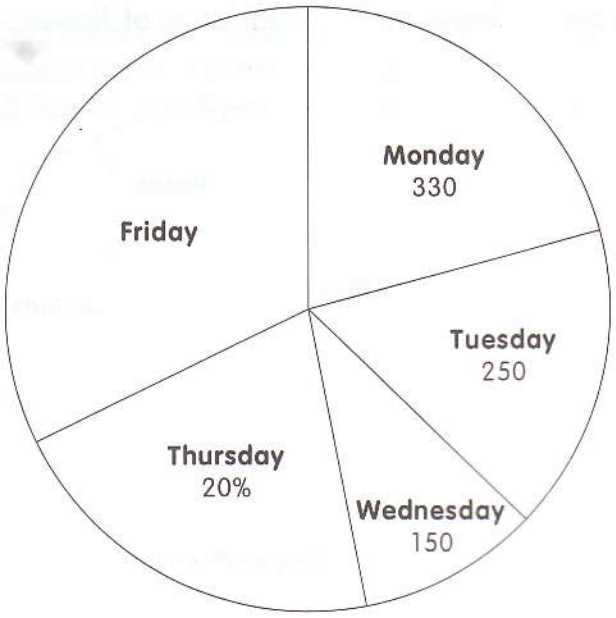
(a) What fraction of flowers in Mr Li's garden are roses? _____

(b) What percentage of flowers in Mr Li's garden are orchids? _____

(c) Given that there are 15 roses, how many lilies are there? _____

(d) What percentage of flowers in Mr Li's garden are lilies? _____

2 The pie chart below shows the sale of chicken rice from Monday to Friday at a particular stall.



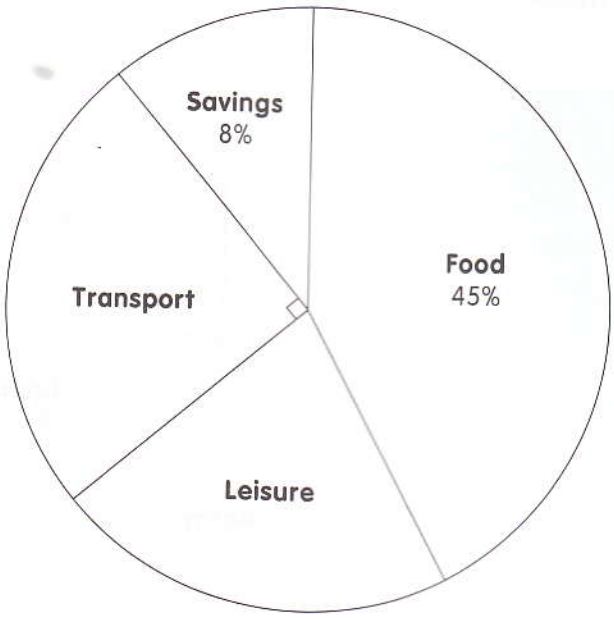
(a) If 300 plates of chicken rice were sold on Thursday, what was the total number of plates of chicken rice sold from Monday to Friday? _____

(b) How many plates of chicken rice were sold on Friday? _____

(c) Express the number of plates of chicken rice sold on Monday as a percentage of the total number of plates sold during the week. _____

(d) What was the average number of plates of chicken rice sold each day? _____

3 The pie chart below shows how Mr Thio managed his monthly income.



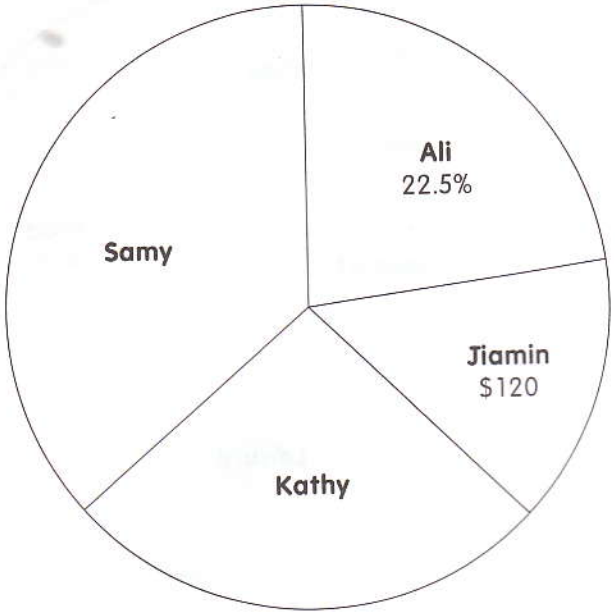
(a) What percentage of his monthly income was spent on leisure? _____

(b) If his savings was $160, how much was his total monthly income? _____

(c) How much did he spend on transport? _____

(d) What percentage of his monthly income was spent on food and transport altogether? _____

4 Four children did some odd jobs to earn some pocket money during the school holidays. They earned a total of $800. The pie chart below shows the amount each of them made.



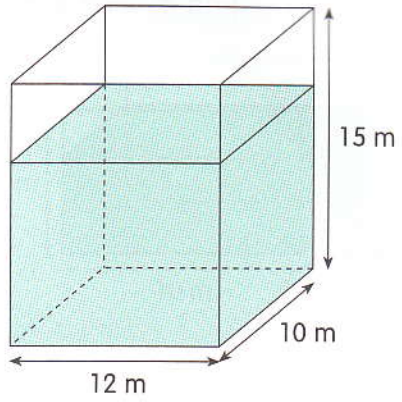
(a) If Kathy made 2 times what Jiamin made, how much did Kathy make? _____

(b) What percentage of the total amount were Ali's and Jiamin's earnings altogether? _____

(c) What percentage of the total amount was Kathy's earnings? _____

(d) What fraction of the total amount was Ali's earnings? _____

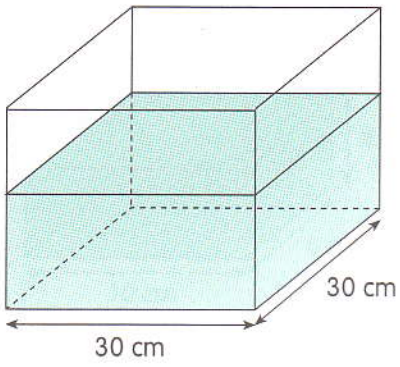
5 A tank measuring 12 m by 10 m by 15 m is 70% filled with water. What is the volume of water in m^3?



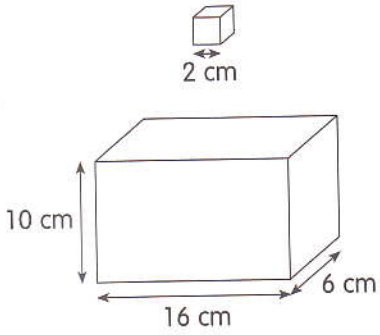
6 A rectangular container has a square base of 30 cm and is $\frac{5}{6}$ filled with water. It would require another 3600 cm^3 of water to fill the container to its brim.

(a) What is capacity of the container? Give your answer in litres.

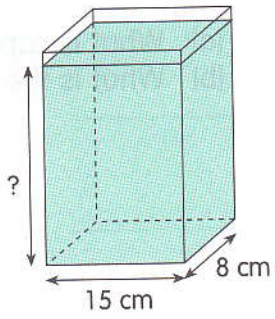
(b) What is the height of the water level in the container?



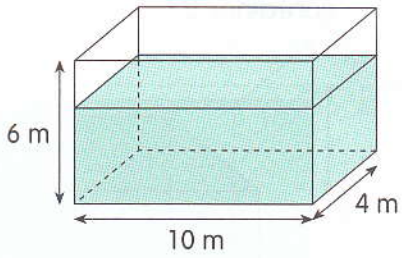
7 How many cubes of side 2 cm are needed to build the following solid?



8 2160 ml of water is poured from a jar into a rectangular container shown below. What is the height of the water level in the container?



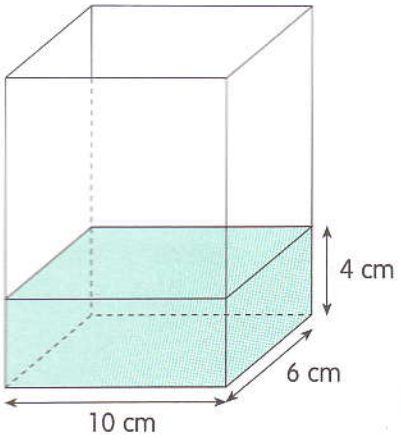
9 A tank, measuring 10 m by 4 m by 6 m, is $\frac{2}{3}$ full. Water is then drained from the tank at a rate of 2 m^3/min. How long will it take to empty all the water?



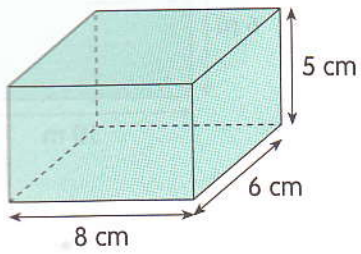
10 The ratio of the volume of water in a rectangular tank to the capacity of the tank is 2 : 7.

(a) What is the capacity of the tank?

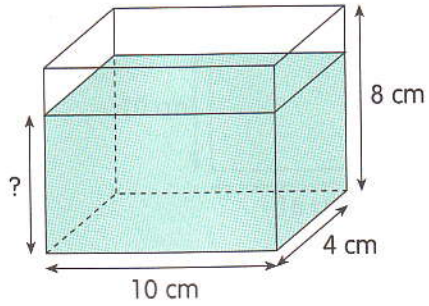
(b) What is the height of the tank?



11 Container A, measuring 8 cm by 6 cm by 5 cm, is filled with water. All the water from container A is poured into an empty container B measuring 10 cm by 4 cm by 8 cm. What is the height of the water level in container B?

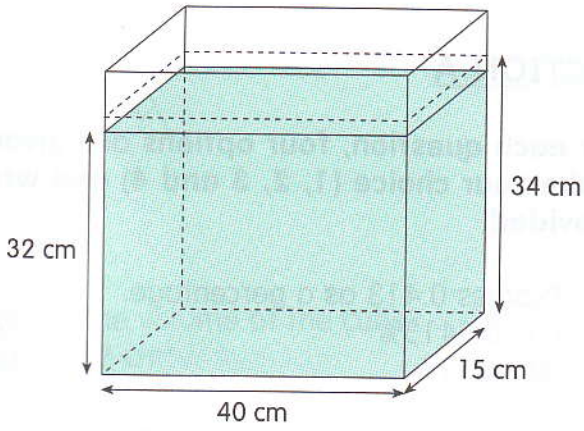


Container A



Container B

12 A rectangular tank, measuring 40 cm by 15 cm at the base, contained water to a height of 32 cm. When more water was added to the tank, the height of the water level rose to 34 cm. What was the amount of water added? Give your answer in litres.



Review Paper

SECTION A

For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 and 4) and write its number in the brackets provided.

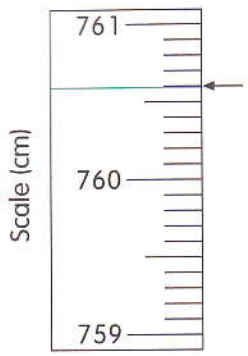
1. Express 0.413 as a percentage.
   (1) 0.0413% (2) 0.413%
   (3) 4.13% (4) 41.3% ( )

2. The digit 6 in the number 35.867 is in the _____ place.
   (1) tens (2) tenths
   (3) hundreds (4) hundredths ( )

3. Marian bought a notebook for $\$(x + 3)$ and a pen for $\$(3x - 2)$. How much did she pay altogether?
   (1) $\$(13x - 6)$ (2) $\$(13x + 6)$
   (3) $\$(4x + 1)$ (4) $\$(4x - 1)$ ( )

4. The perimeter of a rectangular field is 42 m. Its length is twice its breadth. How long is its breadth?
   (1) 5 m (2) 6 m
   (3) 7 m (4) 8 m ( )

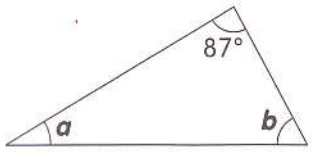
5. What is the reading of the marking on the scale shown to the nearest cm?
   (1) 759 cm
   (2) 760 cm
   (3) 761 cm
   (4) 765 cm



( )

6. 18% of 7000 ml is _____.
   (1) 1.26 ml (2) 12.6 ml
   (3) 126 ml (4) 1260 ml ( )

7. The size of $\angle b$ is twice the size of $\angle a$. Find $\angle a$.

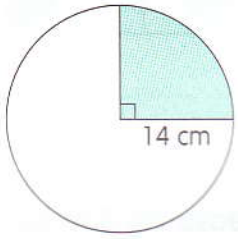


   (1) 31° (2) 33°
   (3) 61° (4) 62° ( )

8. A cube has a base area of 64 cm^2. What is the volume of the cube?
   (1) 1024 cm^3 (2) 512 cm^3
   (3) 256 cm^3 (4) 128 cm^3 ( )

9. John took 12 min to cycle from his home to school at a speed of 200 m/min. How long would John take to walk the same distance if he walked at a speed of 80 m/min?
   (1) 15 min (2) 20 min
   (3) 25 min (4) 30 min ( )

10. Find the area of the unshaded region in the circle shown below.
    (Take $\pi = \frac{22}{7}$)



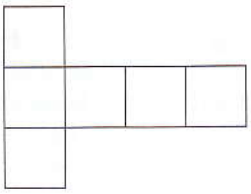
   (1) 154 cm^2 (2) 616 cm^2
   (3) 462 cm^2 (4) 1848 cm^2 ( )

11. A pair of sneakers cost $120. A salesman earned a 5% commission for every such pair of sneakers he sold. If he made a commission of $1380, how many pairs of sneakers did he sell?
   (1) 200 (2) 210
   (3) 220 (4) 230 ( )

12. Maria spent $\frac{1}{3}$ of her pocket money on some stationery and 30% of the remainder on lunch. If she had \$21 left, how much did she have at first?

(1) \$57 (2) \$45
(3) \$60 (4) \$27 ( )

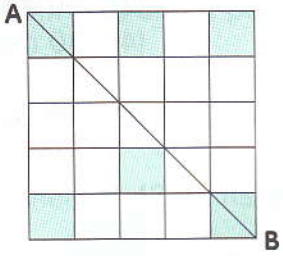
13. Look at the following.



It is a net of a _____.

(1) prism (2) cube
(3) cuboid (4) pyramid ( )

14. How many more squares are needed to be shaded in the figure shown below so that the line AB becomes a line of symmetry?



(1) 1 (2) 2
(3) 3 (4) 4 ( )

15. Find the volume of a cuboid measuring 5 m by 8 m by 1.7 m.

(1) 56 m^3 (2) 40 m^3
(3) 68 m^3 (4) 85 m^3 ( )

SECTION B

Write your answers in the space provided.

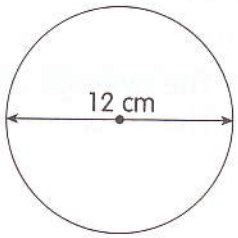
16. What is the value of 16 less than 9000?

Ans: _____

17. What is $\frac{3}{4}$ of 5 hours? Give your answer in minutes.

Ans: _____

18. If the diameter of a circle is 12 cm, find its circumference. (Take $\pi = 3.14$)



Ans: _____

19. $89.35 = 80 + 9 + \frac{\square}{20}$. What is the missing number in the box?

Ans: _____

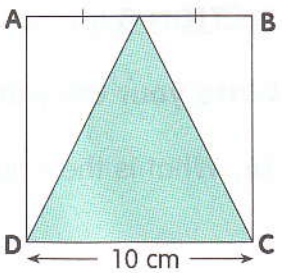
20. Find the value $570 \div 3 - 2 + (6 + 3)$.

Ans: _____

21. How many hours and minutes are there between 18 35 on Monday and 09 55 on Tuesday?

Ans: _____

22. In the figure shown on the right, ABCD is a square. Find the unshaded area.



Ans: _____

23. How many hundreds are there in 14 700?

Ans: _____

24. The average mass of 3 bags of apples is 6.9 kg. The first bag weighs 6.28 kg. The second bag weighs 5 kg. What is the mass of the third bag?

Ans: _____

25. Water is filled into an empty tank at a rate of 18 *l*/min. The capacity of the tank is 300 cm by 120 cm by 200 cm. How long will it take to fill up the whole tank? (Give your answer in h and min.)

Ans: _____

26. Peter has 3 times as many stamps as Jane. Jane has 2 times as many stamps as Mary. Find the ratio of the number of Peter's stamps to the number of Jane's stamps to the number of Mary's stamps.

Ans: _____

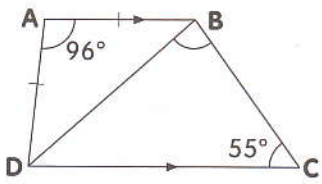
27. The exchange rate between Singapore dollars (S$) and Australian dollars (A$) is A$1 = S$1.30. How many Singapore dollars would you get if you exchanged A$480?

Ans: _____

28. Mingfa had ten 20-cent coins and six 10-cent coins. He put all these coins into a donation tin. What was the total amount he donated?

Ans: _____

29. ABCD is a trapezium. ABD is an isosceles triangle. $\angle DAB = 96°$ and $\angle BCD = 55°$. Find $\angle DBC$.



Ans: _____

30. Tap A could fill an empty tank at a rate of 1.8 litres per minute. Tap B could fill an empty tank at a rate of 4.6 litres per minute. Tap A was turned on at 12.30 p.m. while tap B was turned on 10 minutes later. At 1 p.m., what was the volume of water in the tank?

Ans: _____

31. The rates for photocopying at a particular shop are shown below:

Quantity	Cost
30 copies and below	10 cents per page
Above 30 copies	5 cents per page
Above 100 copies	3 cents per page

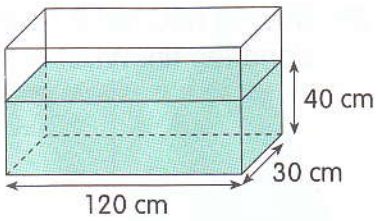
John made 40 copies and Raju made 120 copies of a document. If they paid separately, how much did they pay in all?

Ans: _____

32. A stall in a food court sold 320 plates of chicken rice on Monday. On Tuesday, the number of plates of chicken rice sold increased by 20%. How many plates of chicken rice were sold on Tuesday?

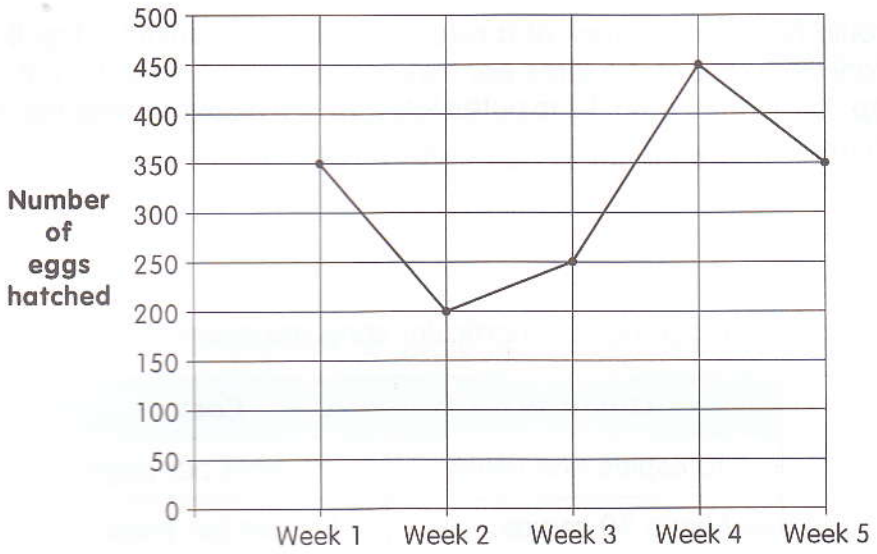
Ans: _____

33. A rectangular container measuring 120 cm by 30 cm was filled with water up to a height of 40 cm. Some more water was poured in and the height of the new water level became 45 cm. How much water was poured in? Give your answer in litres.



Ans: _____

The following line graph shows the number of eggs hatched in a farm over 5 weeks. Study the graph and answer Questions 34 – 35.



34. What was the total number of eggs hatched over these 5 weeks?

Ans: _____

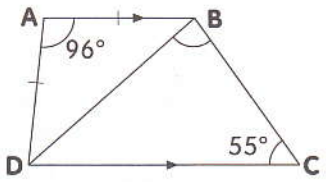
35. What percentage of all the eggs were hatched in weeks 4 and 5?

Ans: _____

28. Mingfa had ten 20-cent coins and six 10-cent coins. He put all these coins into a donation tin. What was the total amount he donated?

Ans: _____

29. ABCD is a trapezium. ABD is an isosceles triangle. $\angle DAB = 96°$ and $\angle BCD = 55°$. Find $\angle DBC$.



Ans: _____

30. Tap A could fill an empty tank at a rate of 1.8 litres per minute. Tap B could fill an empty tank at a rate of 4.6 litres per minute. Tap A was turned on at 12.30 p.m. while tap B was turned on 10 minutes later. At 1 p.m., what was the volume of water in the tank?

Ans: _____

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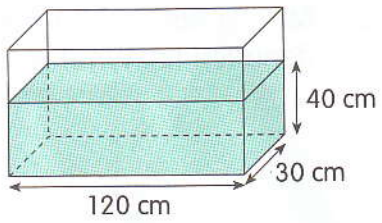
Ans: _____

32. A stall in a food court sold 320 plates of chicken rice on Monday. On Tuesday, the number of plates of chicken rice sold increased by 20%. How many plates of chicken rice were sold on Tuesday?

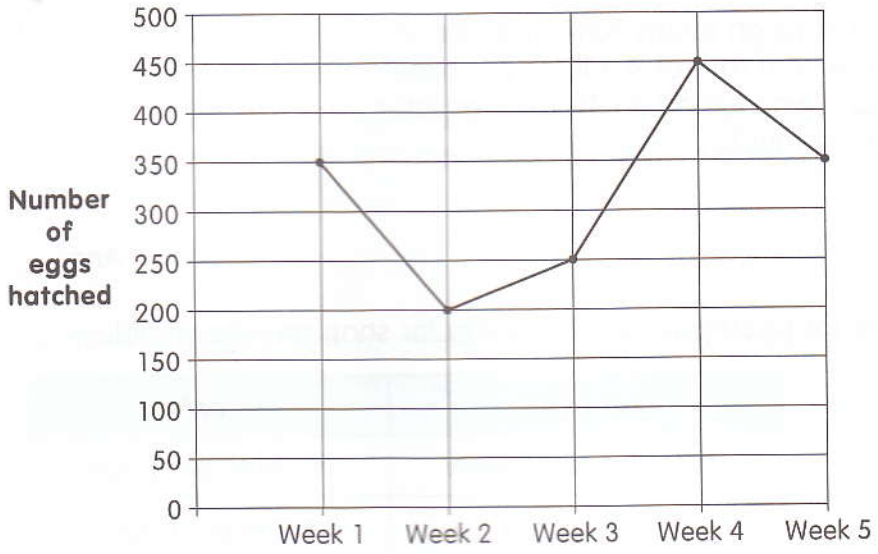
Ans: _____

33. A rectangular container measuring 120 cm by 30 cm was filled with water up to a height of 40 cm. Some more water was poured in and the height of the new water level became 45 cm. How much water was poured in? Give your answer in litres.



Ans: _____

The following line graph shows the number of eggs hatched in a farm over 5 weeks. Study the graph and answer Questions 34 – 35.



34. What was the total number of eggs hatched over these 5 weeks?

Ans: _____

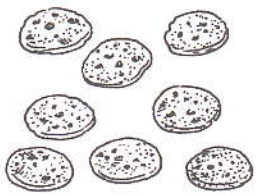
35. What percentage of all the eggs were hatched in weeks 4 and 5?

Ans: _____

SECTION C

Show your working clearly in the space below each question and write your answer in the space provided.

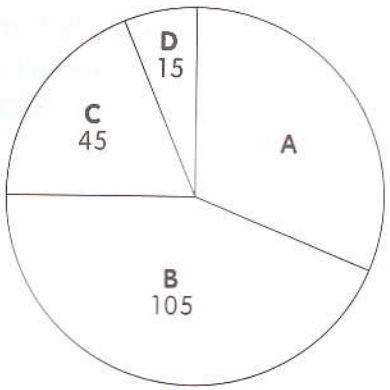
36. The first 300 g of cookies is sold at \$1.50 per 100 g. Additional cookies are sold at \$1.20 per 100 g.
    (a) How much does 500 g of cookies cost?
    (b) How much does 900 g of cookies cost?



Ans: (a) _____

(b) _____

37. 4 printers printed a total of 240 pages over a 15-minute period. The pie chart on the right shows the number of printouts for each printer.
    (a) How many pages did printer A print?
    (b) What was the ratio of the number of pages from printer C to that from printer B?
    (c) What was printer D's rate of printing? Give your answer in pages per minute.



Ans: (a) _____

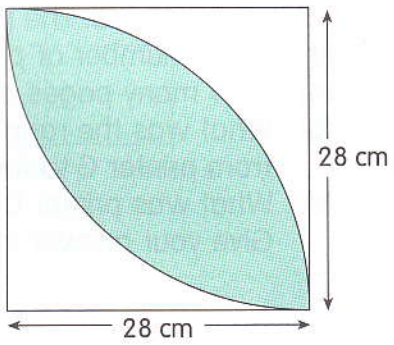
(b) _____

(c) _____

38. Rachel read $\frac{1}{3}$ of a book on the first day. On the second day, she read half as many pages as she read on the first day. She finished reading the rest of the book by the fourth day. If she read 50 pages each on both the third and the fourth day, how many pages were there in the book?

Ans: _____

39. The shaded region is formed by overlapping 2 quadrants with radius 28 cm each.
Find the area of the shaded region. (Take $\pi = \frac{22}{7}$)



Ans: _____

40. The distance between two towns, Northville and Southville, was 300 km. A coach left Northville for Southville at 16 00, travelling at an average speed of 80 km/h for the first 30 minutes. The coach then slowed down to 60 km/h for the rest of the journey.
    (a) After 30 minutes, how far was the coach from Southville?
    (b) What time did the coach arrive at Southville?

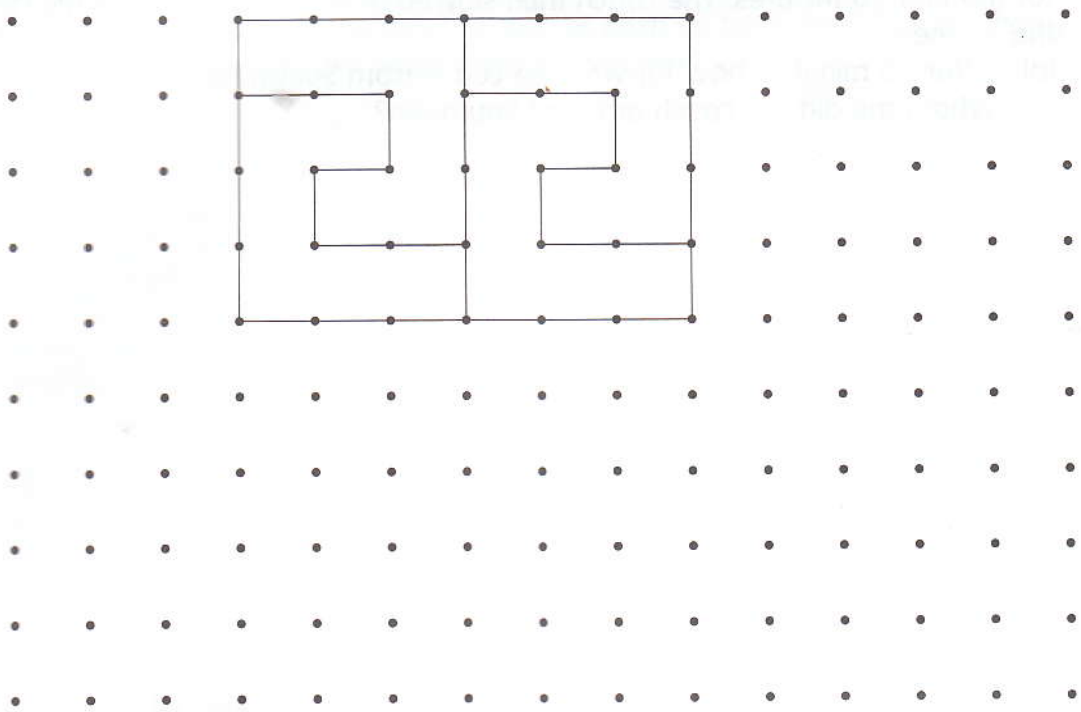
Ans: (a) _____

(b) _____

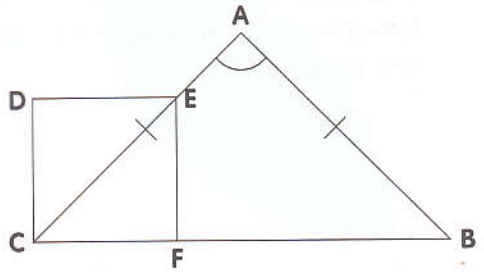
41. The base of a rectangular cuboid has a perimeter of 60 cm. The length, the breadth and the height of the cuboid are in the ratio 2 : 3 : 5. Find the volume of the cuboid.

Ans: _____

42. Extend the tessellation by drawing 5 more unit shapes.

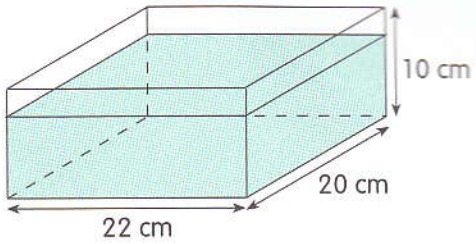


43. ABC is an isosceles triangle. DEFC is a square. Find ∠CAB.



Ans: _____

44. An empty rectangular tank is 22 cm long, 20 cm wide and 10 cm high. 3.3 ℓ of water is poured into it.
    (a) What is the height of the water level in the tank?
    (b) How much water is needed to fill the tank to the brim? (Give your answer in litres.)



Ans: (a) _____

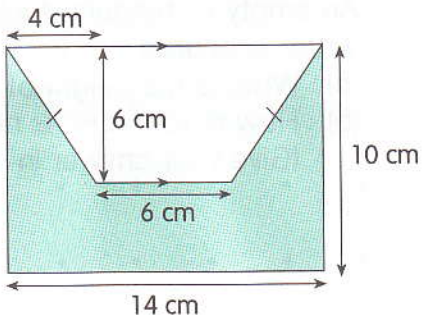
(b) _____

45. The ratio of the amount of money Sharon has to the amount of money Jane has is 7 : 3. The ratio of the amount of money Jane has to the amount of money Eve has is 1 : 5.
    (a) What is the ratio of the amount of money Sharon has to the amount of money Jane has to the amount of money Eve has?
    (b) Given that the 3 girls have $700 altogether, how much money does Sharon have?

Ans: (a) _____

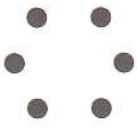
(b) _____

46. Find the area of the shaded region in the figure shown.



Ans: _____

47. In each figure below, each dot must be linked to all the other dots with straight lines. How many straight lines are required to link all the dots in Fig. 6?

Figure	Pattern	Number of dots	Number of lines
1		1	0
2		2	1
3		3	3
4		4	6
5		5	10
6		6	?

Ans: _____

48. 4 wooden blocks and 2 metal balls weigh 64 kg. Each metal ball is twice as heavy as a wooden block. Find the difference in mass between a metal ball and a wooden block.

Ans: _____

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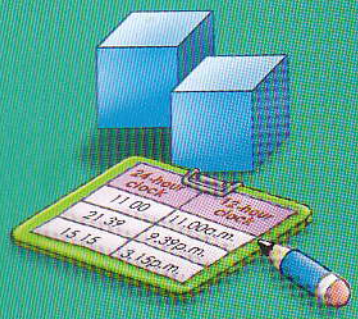

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