

MATHEMATICS (STANDARD) Paper 1 Booklet A

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

1. Express 12 tens and 985 tenths as a decimal.

- 1) 110.5
- 2) 118.5
- 3) 129.9
- 4) 218.5

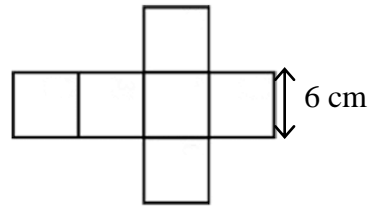
2. There were 42 apples in total. If 18 apples were green and the rest were red, what fraction of the apples was red?

- 1) $\frac{2}{5}$
- 2) $\frac{3}{7}$
- 3) $\frac{4}{7}$
- 4) $\frac{6}{7}$

3. What 80% of 405 m l ?

- 1) 80 m l
- 2) 180 m l
- 3) 324 m l
- 4) 385 m l

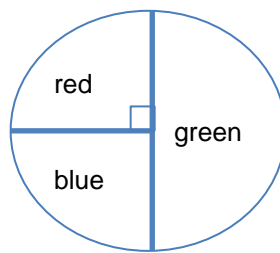
4. The figure below shows the net of a cube with each side measuring 6cm. What is the volume of the cube?



- 1) 196 cm^3
 - 2) 216 cm^3
 - 3) 504 cm^3
 - 4) 512 cm^3
5. The average of three numbers is 9. If 9 is also one of the numbers, what can the other two numbers be?

- 1) 3 and 9
- 2) 3 and 18
- 3) 6 and 12
- 4) 10 and 17

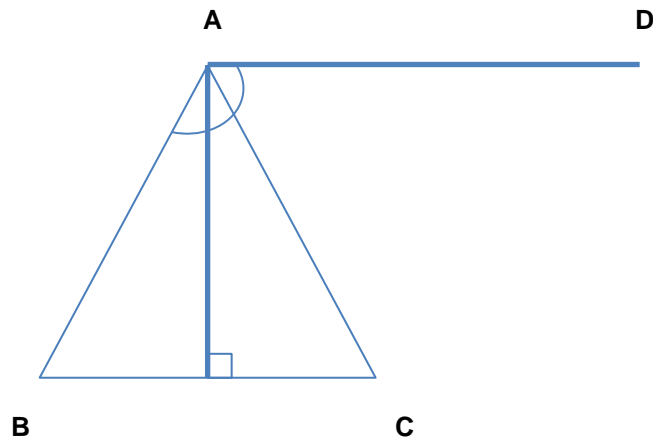
6. The pie chart below shows the favourite colours of the pupils in class 6A.



If 11 pupils' favourite colour is blue, how many pupils are there in the class?

- 1) 22
- 2) 33
- 3) 42
- 4) 44

7. In the figure below, ABC is an equilateral triangle. Find $\angle BAD$.



- 1) 90°
- 2) 120°
- 3) 135°
- 4) 150°

8. Evaluate $\frac{1}{2} \times \frac{4}{5}$. Express your answer in its lowest term.

- 1) $\frac{2}{5}$
- 2) $\frac{4}{5}$
- 3) $\frac{4}{8}$
- 4) $\frac{4}{10}$

9. $\frac{1}{5}$ of Johan's salary is \$450. What is $\frac{1}{2}$ of his salary?

- 1) \$900
- 2) \$1125
- 3) \$1800
- 4) \$2250

10. Simplify $3 + 9d + 5 - 6d$

- 1) $8 + 3d$
- 2) $8 - 3d$
- 3) $2 + 15d$
- 4) $2 - 15d$

11. Mdm Fatimah bought $\frac{1}{8}$ kg of beans. She divided the beans equally into 5 plates.

How much beans was in each plate?

- 1) 25 g
- 2) 40 g
- 3) 50 g
- 4) 125 g

12. Below are the parking charges of a multi-storey carpark.

Parking Charges	
From 7 a.m. to 7 p.m. :	
1 st hour	\$2.50
Subsequent $\frac{1}{2}$ h or part thereof	\$1.00
After 7 p.m. to the next day	\$4.00

Hassan parked his car at the multi-storey carpark from 4.30 p.m. to 9.00 p.m.

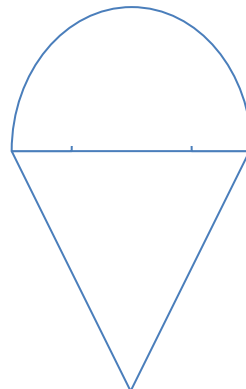
How much parking charges did he pay?

- 1) \$6.50
- 2) \$7.50
- 3) \$9.50
- 4) \$11.50

13. The figure below (not drawn to scale) is made up of a semicircle and an equilateral triangle. If one side of the triangle is 14cm, find the perimeter of the figure.

(Take $\pi = \frac{22}{7}$)

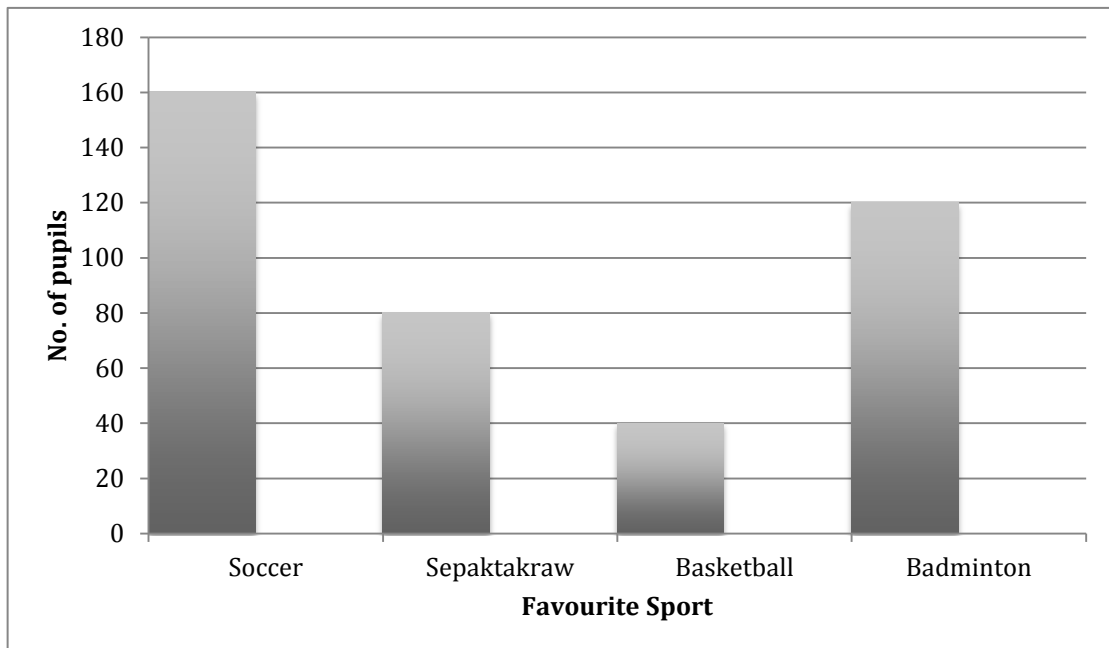
- 1) 28 cm
- 2) 42 cm
- 3) 44 cm
- 4) 50 cm



14. Mr Ahmad gives $\frac{3}{4}$ of his salary to his family and spends $\frac{3}{8}$ of the remainder on himself. He saves the rest of the money. If he saves \$345, what is his salary?

- 1) \$1227
- 2) \$1656
- 3) \$2208
- 4) \$2760

15. Some students were asked to vote for their favourite sport. The results were shown below.



What is the percentage of pupils who voted for soccer as their favourite sport?

- 1) 10%
- 2) 20%
- 3) 30%
- 4) 40%

PSLE MATHEMATICS (STANDARD) PAPER 1 BOOKLET B

Questions **16** to **25** carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (10 marks)

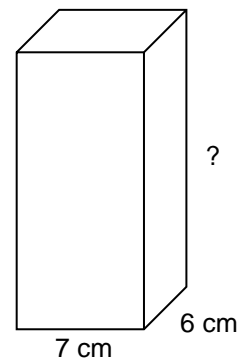
16. Find the value of $4 \div 9$. Leave your answer correct to 2 decimal places.

Ans: _____

17. Express 13 kg and 80g in kg.

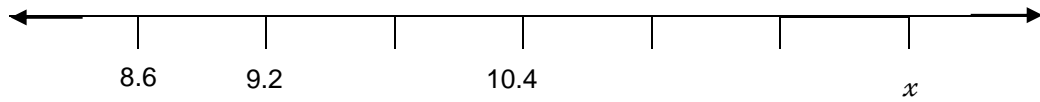
Ans: _____ kg

18. The capacity of the rectangular tank shown below is 420 cm^3 . What is the height of the tank?



Ans: _____

19. The figure below shows a number line with markings at equal intervals. What number is represented by x ?

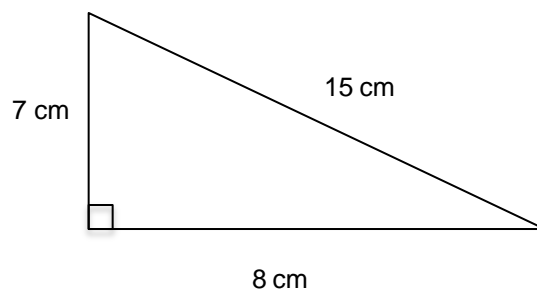


Ans: _____

20. Khadijah, Aishah and Zainab shared \$685 in the ratio of 5 : 2 : 3 respectively. Find the amount of money the child with the largest share received.

Ans: \$ _____

21. Find the area of the triangle below.

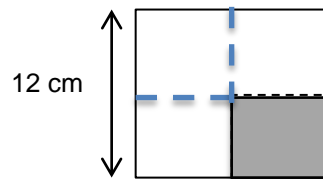


Ans: _____ cm^2

22. 25% of a number is 135. What is 35% of the number?

Ans: _____ %

23. Ali folded a square paper along the dotted lines into 4 equal parts. He cut out one part. What is the area of the remaining part?



Ans : _____ cm^2

24. To make lemonade, the ratio of the amount of lemon juice to the amount of water needed is 2 : 5. How much water is needed if the amount of lemon juice used is $380ml$?

Ans : _____ ml

25. Find the value of $65 - 32 \div 4 + (16 - 7 \times 2)$

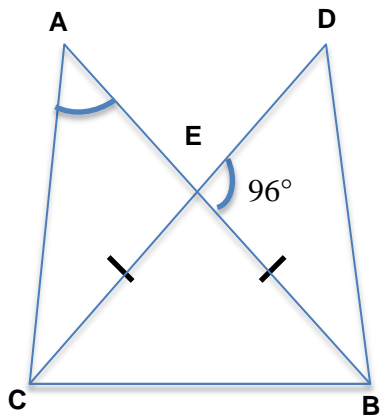
Ans: _____

Questions **26** to **30** carry 2 marks each. Show your working clearly in the spaces below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

26. There are some ducks and geese on a farm. The animals have 34 legs altogether. If there are 3 fewer ducks than geese, how many geese are there?

Ans: _____

27. In the figure below (not drawn to scale), CEB is an isosceles triangle. $\angle DEB$ is 96° . If $\angle ACD = \angle DCB$, find the value of $\angle CAB$



Ans: _____^o

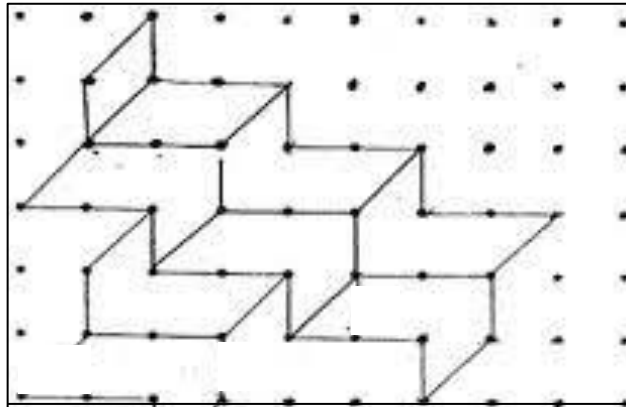
28. Siti's mother is m years old. Her father is 4 years older than her mother. Find the total age of Siti's parents in 10 years' time if $\frac{1}{4}m = 9$.

Ans: _____

29. A train travelled from Station A to Station B at a constant speed of 60km/h. The distance between the two stations is 300km. If the train increased its speed by 15km/h for the journey, what is the time needed for the train to travel from Station A to Station B?

Ans: _____ h

30. The pattern in the box below shows part of a tessellation.



- (a) Shade the unit shape in the above tessellation.
- (b) Extend the tessellation by drawing in **two** unit shapes completely in the space provided in the box.

Paper 2

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

1. The cost of 4 apples and 3 pears is \$4.10. If 2 apples cost \$1.00, what is the cost of a pear?

Ans : \$ _____

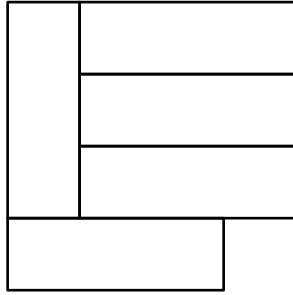
2. There are some balls in a box. 75% of the balls are red and 25% of them are green. If 16 more red balls are added, the percentage of green balls will decrease from 25% to 20%. How many green balls are in the box?

Ans : _____

3. Aishah has a bar of chocolate. She gave $\frac{1}{3}$ of it to her sister and divided the remainder into 4 equal pieces. What fraction of the bar of chocolate is each piece?

Ans : _____

4. The figure below is made up of 5 identical rectangles. It has a perimeter of 400cm. Find the area of each rectangle.



Ans : _____

5. A tap fills a rectangular container at a rate of 2.5ℓ per minute. If the container measures 60cm by 25cm by 30cm, how long will it take to fill the container completely?

Ans : _____

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in the brackets [] at the end of each question or part-question.

6. A radio costs \$150. It costs \$250 less than a camera but \$78 more than a fan. What is the total cost of 1 radio, 1 camera and 1 fan?

Ans : _____ [3]

7. Ahmad has p stamps. Darwis has thrice as many stamps as Ahmad. Khalid has 8 stamps more than Darwis. How many stamps do they have altogether?
- (a) (express your answer in terms of p)
- (b) If p is 7, how many stamps do the children have altogether?

Ans : (a) _____ [2]

Ans : (b) _____ [1]

8. The table below shows the Mathematics marks of three girls. An ink blotch has accidentally covered part of Tina's and Susi's marks.

	Marks
Tina	6
Susi	8
Damia	?

The average mark of the three girls is 79. The difference between Tina's marks and Susi's marks has the smallest possible value. What is Damia's marks?

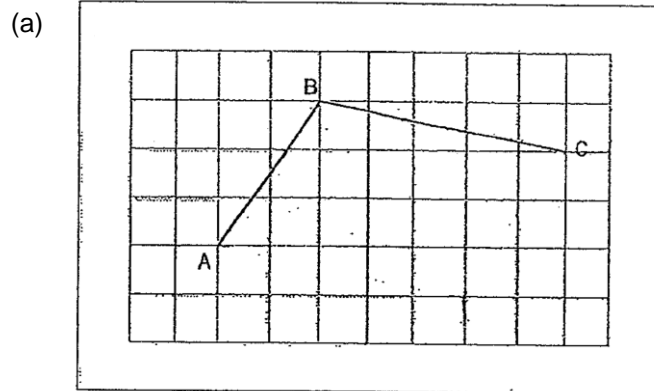
Ans: _____ [3]

9. The ratio of the number of caramel cupcakes to blueberry cupcakes is 4 : 5. The ratio of the number of vanilla cupcakes to the total number of caramel and blueberry cupcakes is 5 : 6.
- (a) What fraction of the cupcakes are blueberry cupcakes?
- (b) If there are 99 cupcakes altogether, how many blueberry cupcakes are there?

Ans: (a) _____ [2]

(b) _____ cupcakes [1]

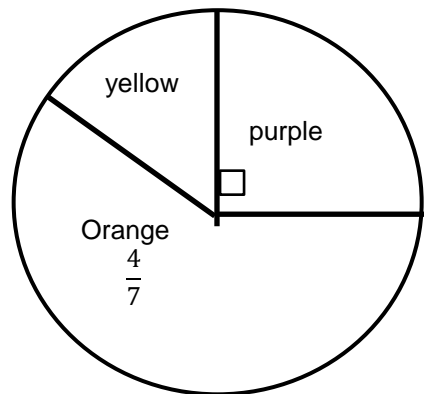
10. AB and BC are two sides of a parallelogram.
 (a) Complete the parallelogram ABCD by drawing the other two sides in the square grid below.
 (b) Measure $\angle ABC$.



[2]

Ans: (b) _____ [1]

11. The pie chart below shows the favourite colour of some pupils. If orange is the favourite colour of 48 pupils, how many pupils like yellow?

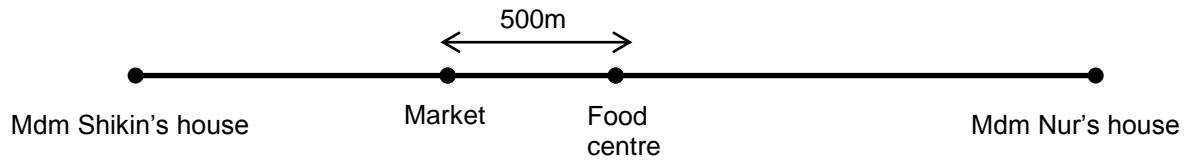


Ans: _____ [3]

12. A market and a food centre, 500m apart, are located between Mdm Shikin's house and Mdm Nur's house, as shown below.

The food centre is half-way between the two houses. Mdm Shikin and Mdm Nur left their houses at the same time and arrived at the supermarket at the same time. Mdm Nur drove at a speed of 65km/h while Mdm Shikin drove at a speed of 10km/h slower than Mdm Nur.

- (a) How much further did Mdm Nur drive than Mdm Shikin?
- (b) How far is Mdm Shikin's house from the food centre? (express your answer in km)



Ans: _____ [1]

Ans: _____ [3]

13. Harris made some patterns using circles, triangles and sticks. He recorded the pattern in the table shown below.

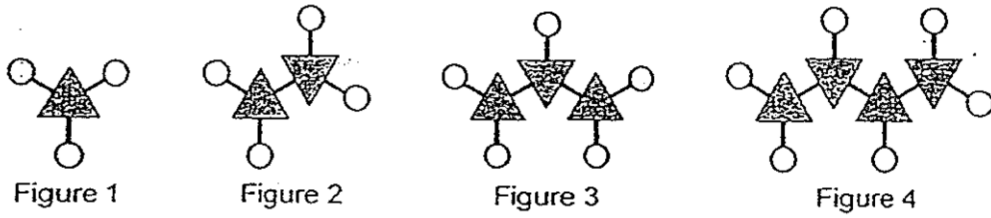


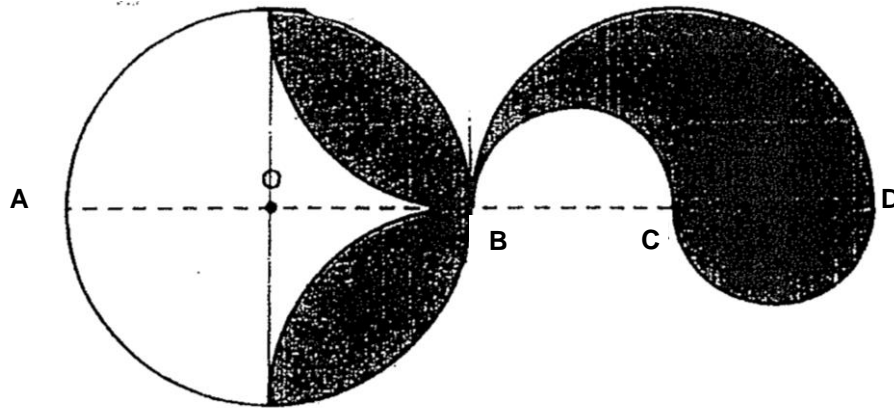
Figure	Number of circles	Number of sticks
1	3	3
2	4	5
3	5	7
4	6	9
...
15	(a)	...
...
20	...	(b)

- (a) How many circles are needed for Figure 15?
 (b) How many sticks are needed for Figure 20?

Ans : (a) _____ [2]

Ans : (b) _____ [2]

14. The figure below is not drawn to scale. O is the centre of the circle. $OB = BC = CD$. Find the shaded area. (Take $\pi = 3.14$)



Ans : _____ [4]

15. There were 80 questions in a Mathematics quiz. For each correct answer, 3 marks will be awarded to the participant. However, 1 mark will be deducted for each wrong answer. Mustafa scored a total of 160 marks.
- (a) How many questions did Mustafa answer correctly?
 - (b) What fraction of the questions did he answer wrongly?

Ans : (a) _____ [3]

Ans : (b) _____ [2]

16. A piece of wire is cut into two pieces. Each piece is bent to form a square and a rectangle respectively. The length of each side of the square is equal to the breadth of the rectangle. The length of the rectangle is thrice its breadth. The total area of the square and the rectangle is 100 cm^2 .
- (a) Find the length of the rectangle.
 - (b) Find the difference in perimeter between the rectangle and the square.

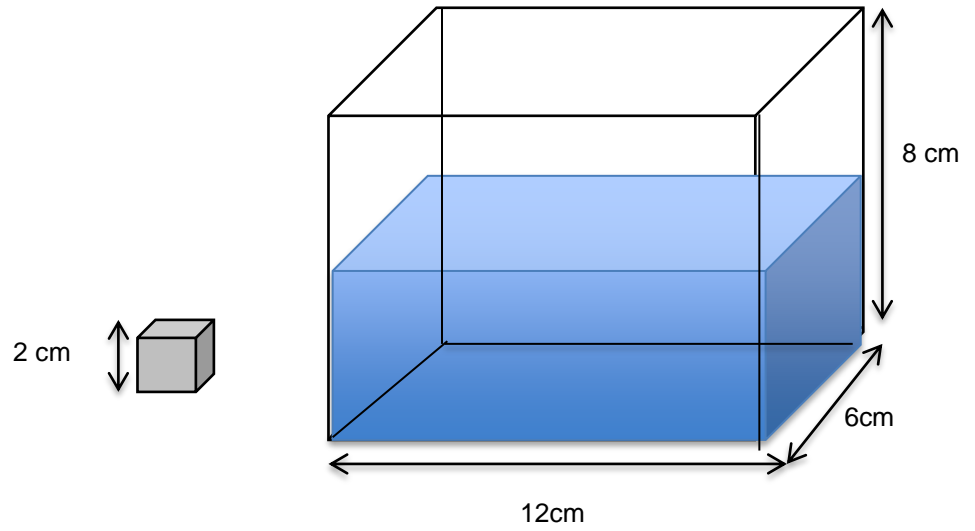
Ans : (a) _____ [3]

Ans : (b) _____ [2]

17. Daniel and Faisal were playing a card game. During the first game, Daniel lost 50% of his picture cards to Faisal. However, during the second game, Faisal lost $\frac{1}{5}$ of his picture cards to Daniel. As a result, both of them have an equal number of picture cards. If Daniel had 60 more cards than Faisal before they started playing, how many cards did Faisal have at first?

Ans : _____ [5]

18. The following figure (not drawn to scale) shows a tank containing some water. The height of the water in the tank is 6cm. Some identical metal cubes of side 2cm are put into the water. What is the greatest number of cubes that can be put into the water before the container overflows?



Ans : _____ [5]

PSLE MATHEMATICS (STANDARD)

Answer Key

Paper 1 Booklet A

1.	4	4.	2	7.	2	10.	1	13.	4
2.	3	5.	3	8.	1	11.	1	14.	3
3.	3	6.	4	9.	2	12.	3	15.	4

Paper 1 Booklet B

16. 0.44
17. 13.08
18. 10
19. 12.2
20. 342.50
21. 28
22. 189
23. 108
24. 950
25. 75

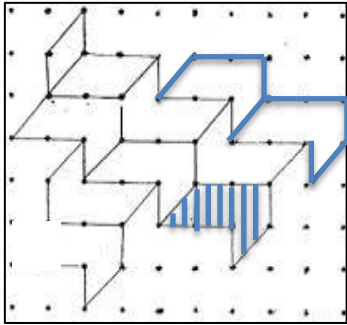
26. 1 duck \rightarrow 2 legs, 1 geese \rightarrow 2 legs
3 more geese than ducks $\rightarrow 3 \times 2 = 6$ legs
 $34 - 6 = 28$ legs [M1]
 $28 \div 2 = 14$ animals
 $14 \div 2 = 7$ ducks
 $7 + 3 = 10$ geese [A1]

27. $\angle CEB = (360^\circ - 96^\circ - 96^\circ) \div 2$
 $= 84^\circ$
 $\angle DCB = (180^\circ - 84^\circ) \div 2$
 $= 48^\circ$
 $\angle DCB = \angle ACD = 48^\circ$, $\angle CEA = 96^\circ$
 $\angle CAB = 180^\circ - 48^\circ - 96^\circ$ [M1] $= 36^\circ$ [A1]

28. Mother $\rightarrow m$ years old
Father $\rightarrow 4 + m$ years old
If $\frac{1}{4}m = 9$, then Mother $\rightarrow 4 \times 9 = 36$ years old [M1]
In 10 years' time,
Mother $\rightarrow 36 + 10 = 46$
Father $\rightarrow 46 + 4 = 50$ [A1]

29. New speed = 75 km/h
Time = Distance \div Speed
= 300 \div 75 [M1]
= 4 [A1]

30.



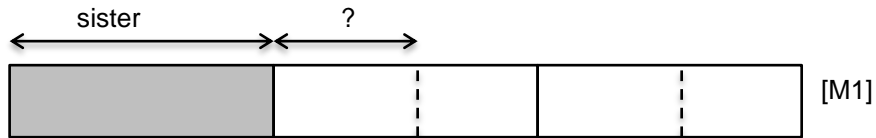
Paper 2

1. 4 apples + 3 pears → \$4.10
2 apples → \$1.00
4 apples → 2 x \$1.00
= \$2.00
3 pears → \$4.10 - \$2.00
= \$2.10 [M1]
1 pear → \$0.70 [A1]

2. New ratio - green : red
20 : 80
1 : 4 [M1]
Original ratio - green : red
25 : 75
1 : 3

4 units - 3 units → 1 unit → 16 [A1]

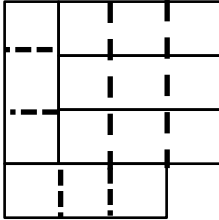
3. A bar of chocolate



Remaining fraction of the chocolate - $1 - \frac{1}{3}$
 $= \frac{2}{3}$

Fraction of each piece of chocolate - $\frac{2}{3} \div 4$
 $= \frac{2}{3} \times \frac{1}{4}$
 $= \frac{1}{6}$ [A1]

4. You need to divide the rectangles as below.



Notice that the perimeter of the figure has been divided into 16 equal units.

$$16 \text{ unit} \rightarrow 400\text{cm}$$

$$1 \text{ unit} \rightarrow 400 \text{ cm} \div 16 \\ = 25 \text{ cm (Breadth of a rectangle)}$$

Notice that the length of each rectangle is made up of 3 units.

$$3 \text{ unit} \rightarrow 25 \text{ cm} \times 3$$

$$= 75 \text{ cm (Length of a rectangle) [M1]}$$

Therefore,

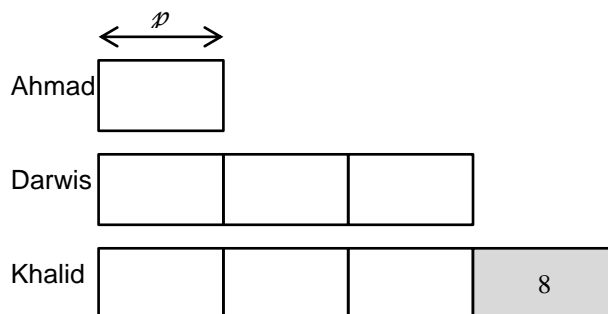
$$\text{Area of rectangle} \rightarrow 25\text{cm} \times 75\text{cm} = 1\,875 \text{ cm}^2 \text{ [A1]}$$

5. Volume of rectangular container = $60 \times 25 \times 30$
 $= 45\,000$ [M1]
 $45 \div 2.5 = 18$ minutes [A1]

6. Cost of 1 camera = $\$150 + \250
 $= \$400$ [M1]
 Cost of 1 fan = $\$150 - \78
 $= \$72$ [M1]

$$\text{Total} = \$150 + \$400 + \$72 \\ = \$622 \text{ [A1]}$$

7. In terms of p ,



- (a) $p + 3p + 3p + 8 = 7p + 8$ [A2]
 (b) $7 + 3(7) + 3(7) + 8 = 57$ [A1]

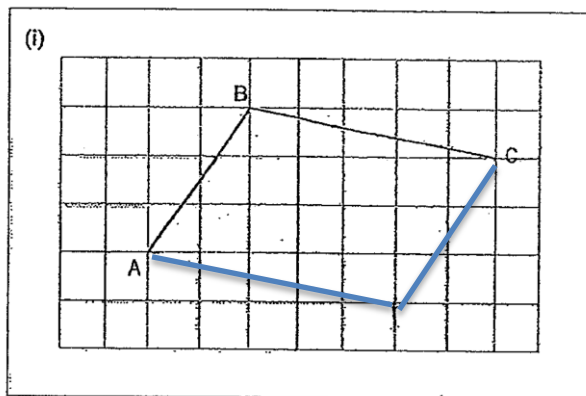
8. $79 \times 3 = 237$
 $80 - 69 = 11$ [M2]
 $237 - 80 - 69 = 88$ [A1]

9. Caramel : Blueberry
 $4 : 5$
 Vanilla : Caramel + Blueberry
 $5 : 6$

Caramel : Blueberry (x6)
 $24 : 30$
 Vanilla : Caramel + Blueberry (x9) [M1]
 $45 : 54$

- (a) 30 out of 99 units $\rightarrow 10/33$ [A1]
 (b) 33 units $\rightarrow 99$ cupcakes
 1 unit $\rightarrow 3$ cupcakes
 10 units $\rightarrow 30$ cupcakes

10. Draw 2 sides



(b) 67°

11. Fraction of pupils who likes yellow $\rightarrow 1 - \frac{4}{7} - \frac{1}{4}$ [M1]

$$= \frac{28}{28} - \frac{16}{28} - \frac{7}{28}$$

$$= \frac{5}{28}$$


$$\frac{16}{28} \rightarrow 48 \text{ pupils} \quad \frac{1}{28} \rightarrow 3 \text{ pupils}$$

$$\frac{5}{28} \rightarrow 5 \times 3 = 15 \text{ pupils}$$

12. (a) $500\text{m} + 500\text{m} = 1000\text{m}$ or 1km [A1]
 (b) Mdm drove at 65km/h . Therefore, Mdm Shikin drove at 55km/h .
 $10\text{km} \rightarrow 1\text{h}$
 $1\text{km} \rightarrow 1/10\text{ h}$
 As Speed \times Time = Distance,
 $55\text{km/h} \times 1/10\text{h} = 5.5\text{ km}$
 $500\text{m} = 0.5\text{km}$ [A1]
 $5.5\text{km} + 0.5\text{km} = 6\text{km}$ [A2]
13. Number of circles needed for Figure 15 $\rightarrow 15 \times 1 + 2 = 17$ (M1,A1)
 Number of sticks needed for Figure 20 $\rightarrow 20 \times 2 + 1 = 41$ (M1,A1)

14. semicircle = $\frac{1}{2} \times \pi \times 4 \times 4 = 8\pi$ [M1]
 $\frac{1}{4} \pi \times 4 \times 4 = 4\pi$
 $\frac{1}{2} \times 4 \times 4 = 8$
 $(4\pi - 8) \times 4 = 16\pi - 32$ [M1]
 Alternatively, can use $\pi \times 4 \times 4 - 2 \times 4 \times 4 = 16\pi - 32$
 $(16\pi - 32) + 8\pi = 24\pi - 32$ [A2]
 The shaded area is $(24\pi - 32) \text{ cm}^2$.

15. (a) Full marks $\rightarrow 80 \times 3 = 240$
 Total marks lost of each wrong answer $\rightarrow 3 + 1$ [M1] = 4
 Total marks lost $\rightarrow 240 - 160 = 80$ [M1]
 Number of wrong answers $\rightarrow 80 \div 4 = 20$
 Number of correct answers $\rightarrow 80 - 20 = 60$ [A1]
- (b) 20 out of 80 questions $\rightarrow 20/80$ [M1] = $\frac{1}{4}$ [A1]

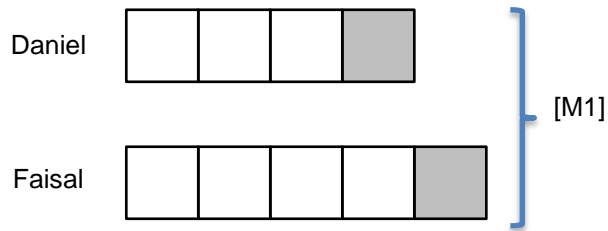
16. a)
- 

1 unit 3 units

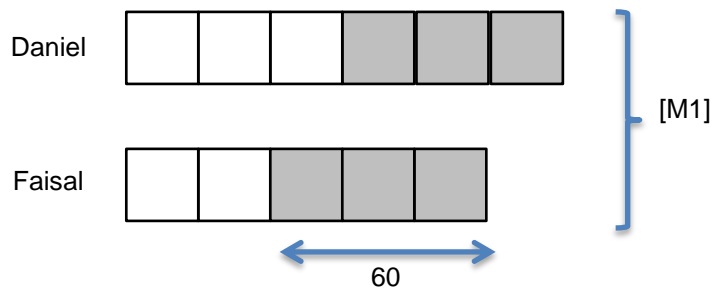
4 square units $\rightarrow 100\text{cm}^2$
 1 square unit $\rightarrow 100 \div 4$ [M1] = 25 cm^2
 Side of square $\rightarrow \sqrt{25} = 5\text{cm}$ [M1]
 Length of rectangle $\rightarrow 3 \times 5\text{cm} = 15 \text{ cm}$ [A1]
 The length of the rectangle is 15cm .

- b) Perimeter of square = $4 \times 5 = 20 \text{ cm}$
 Perimeter of rectangle = $2 \times (5 + 15)$ [M1] = 40cm
 Difference = $40 - 20 = 20\text{cm}$ [A1]
 The difference in perimeter between the rectangle and the square is 20cm .

17. Before the second game,



Before the first game,



4 units – 60 cards [M1]

1 unit – 15 cards [M1]

Number of cards Faisal have at first = $15 \times 2 = 30$ [A1]

18. Difference in height $\rightarrow 8\text{cm} - 6\text{cm} = 2\text{ cm}$ [M1]

Volume of empty space in the tank $\rightarrow 12\text{cm} \times 6\text{cm} \times 2\text{cm} = 144\text{ cm}^3$ [M2]

Volume of cube $\rightarrow 2\text{cm} \times 2\text{cm} \times 2\text{cm} = 8\text{cm}^3$

$144 \div 8 = 18$ [A2]

