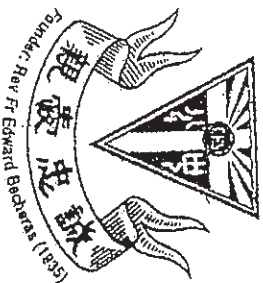


Name: _____ () 21 May 2010

Class: P 6 _____



CATHOLIC HIGH SCHOOL

PRIMARY SIX

PRELIMINARY EXAMINATION 1

PAPER 1

(BOOKLET A)

15 questions

20 marks

Total Time for Booklets A and B: 50 min

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Shade your answers in the Optical Answer Sheet (OAS) provided.

You are **not** allowed to use a calculator.

Answer all questions.

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 correct oval on the Optical Answer Sheet. All diagrams are not drawn to scale. (20 marks)

1. The number of people who turned up at a soccer match was 389 527. Express this number to the nearest thousand.
- (1) 389 000
(2) 390 000
(3) 399 000
(4) 400 000
- ()
-
2. Which of the following has the same value as 2 km 40m?
- (1) 240 m
(2) 2004 m
(3) 2040 m
(4) 2 400 m
- ()

3. Express 40 tens, 3 ones and 67 hundredths as a decimal.
- (1) 43.67
(2) 43.067
(3) 403.67
(4) 403.067
- ()

4. The breadth of a rectangle is $\frac{2}{3}$ as long as its length. Find the perimeter of the rectangle if the breadth is 18 cm long.
- (1) 12 cm
(2) 45 cm
(3) 60 cm
(4) 90 cm
- ()

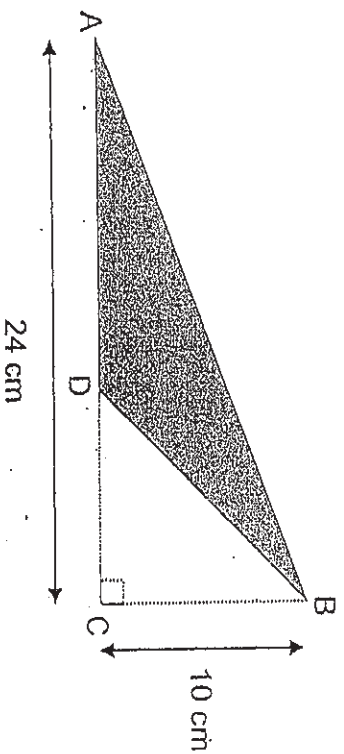
(Go to the next page)

5. Which of the following fraction has the largest value?

- (1) $\frac{1}{6}$
- (2) $\frac{2}{7}$
- (3) $\frac{3}{8}$
- (4) $\frac{4}{9}$

()

6. ABC is a right angled triangle. BC is equal to DC. Find the area of the shaded triangle ABD.



- (1) 60 cm²
- (2) 70 cm²
- (3) 120 cm²
- (4) 240 cm²

()

7. A machine can photocopy 3000 sheets of paper in 1 hour. How many sheets of paper can it photocopy in 15 minutes?

- (1) 50
- (2) 200
- (3) 450
- (4) 750

()

(Go to the next page)

Use the information given in the table to answer questions 8 and 9.

The table below shows the number of books borrowed in a week in a class library.

Number of pupils	0	1	2	3	4
Number of books borrowed by each pupil	1	2	3	4	5

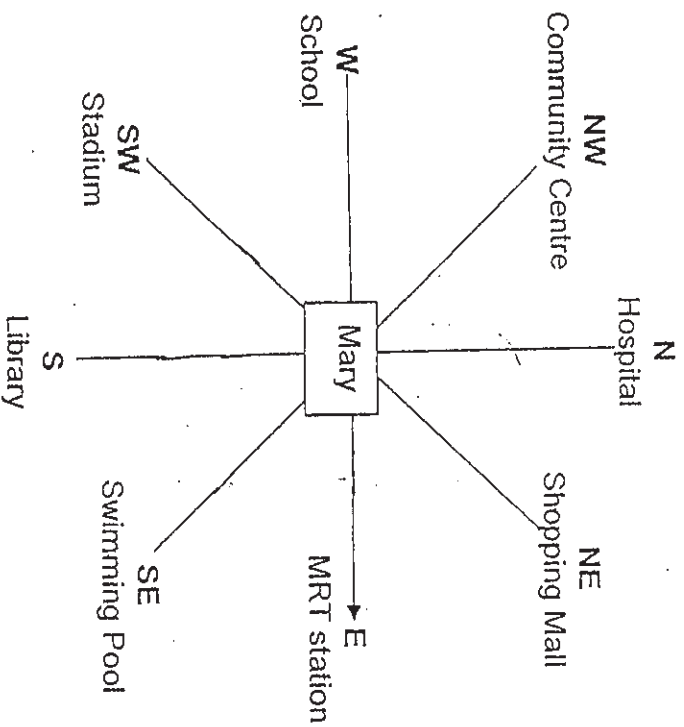
8. How many pupils borrowed more than 2 books?

- (1) 2
 - (2) 9
 - (3) 10
 - (4) 25
- ()

9. What is the total number of books borrowed in a week?

- (1) 10
 - (2) 15
 - (3) 40
 - (4) 41
- ()

10.



Mary was facing the MRT station. She made a 135° clockwise turn. Which building would she be facing?

- (1) Stadium
 - (2) Shopping Mall
 - (3) Swimming Pool
 - (4) Community Centre
- ()

11. A tank was $\frac{1}{5}$ filled with water. When another 250 ml of water is poured into the tank, it became $\frac{1}{3}$ full. What is the amount of water in the tank at first?

- (1) 125 ml
 - (2) 375 ml
 - (3) 625 ml
 - (4) 1785 ml
- ()

(Go to the next page)

12. Find the value of $10 \times 3 + (40 - 25) \div 3$.

- (1) 15
 - (2) 35
 - (3) 60
 - (4) 80
- ()

13. Joe and Paul shared a bag of marbles. When Joe's share increased from 150 marbles to 405 marbles, the number of marbles Paul has at first decreased by 15%. How many marbles did Paul have at first?

- (1) 225
 - (2) 300
 - (3) 1700
 - (4) 1955
- ()

14. Michael wants to cut out circular discs of radius 4 cm from a cardboard measuring 80 cm by 30 cm. What is the maximum number of discs he can cut out from the cardboard?

- (1) 30
 - (2) 60
 - (3) 300
 - (4) 600
- ()

15. A motorist traveling at 80 km/h took 6 hours to complete his journey. How much faster would he need to travel if he had to reach his destination in 5 hour's time?

- (1) 13 km/h
 - (2) 16 km/h
 - (3) 75 km/h
 - (4) 96 km/h
- ()

Name: _____ () 21 May 2010

Class: P 6 _____



CATHOLIC HIGH SCHOOL

PRIMARY SIX

PRELIMINARY EXAMINATION 1

MATHEMATICS

PAPER 1

(BOOKLET B)

15 questions

20 marks

Total Time for Booklets A and B: 50 min

Booklet A	
Booklet B	
Total	

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are **not** allowed to use a calculator.

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

Do not write
in this space.

16. Express 10 ml as a percentage of 2.5 l.
(Leave your answer in its simplest form.)

Ans: _____ %

17. Form the greatest odd number using the digits 2, 0, 1, 9.

Ans: _____

18. A ball of string is $3\frac{2}{25}$ m long. It is cut into 7 pieces. What is the length of each piece of string?

Ans: _____ m

(Go to the next page)

19. A man started running a marathon at 6.30 a.m. and finished at 11.25 a.m. How much time did he take to finish the marathon?

Do not write
in this space.

Ans: _____ h _____ min

20. A shop sells $\frac{1}{6}$ kg of sugar for 80 cents. How much does 2 kg of the sugar cost?

Ans:\$ _____

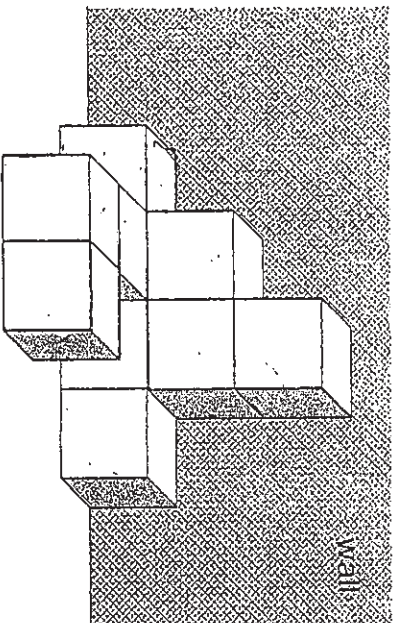
21. Harry is p years old now. Sally is 8 years younger than Harry. How old will Sally be in 10 years' time? Express your answer in terms of p.

Ans: _____ years old

(Go to the next page)

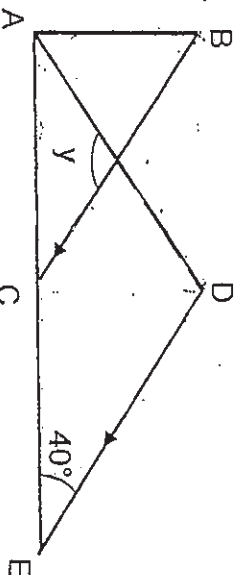
22. The figure below shows a cuboid made up of some identical unit cubes. The cuboid is placed against a wall and painted. How many of the cubes have 3 of its faces painted?

Do not write
in this space.



Ans: _____

23. ABC and ADE are triangles. ACE is a straight line and $AD = DE$. BC is parallel to DE. Find $\angle y$.



Ans: _____°

(Go to the next page)

24. The sum of 3 consecutive even numbers is 198. What is the largest possible number?

Do not write
in this space

Ans: _____

25. Daryl had a ribbon which is 3 m long. He used $1\frac{2}{5}$ m of the ribbon and gave $\frac{1}{10}$ m of it to his friend. How much ribbon had he left?

Ans: _____ m

Total marks for questions 16 to 25

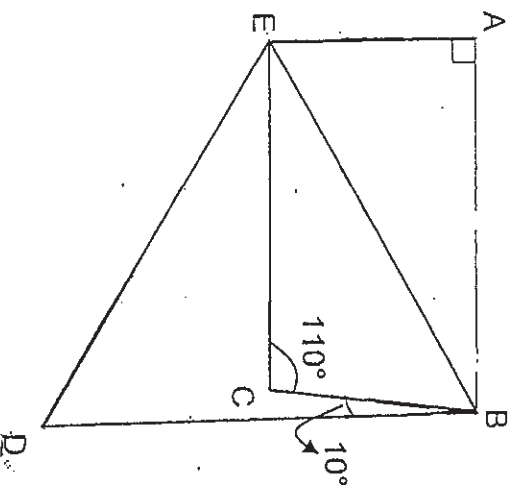
Do not write
in this space.

Questions 26 to 30 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. (10 marks)

26. Express $5\frac{3}{7}$ as a decimal and correct the answer to 2 decimal places.

Ans: _____

27. ABCE is a trapezium and EBD is an equilateral triangle. Find $\angle ABE$.



Ans: _____ °

(Go to the next page)

28. There are some sweets in container A and B. After $\frac{3}{4}$ of the sweets in

Do not write
in this space

container A and $\frac{2}{5}$ of the sweets in container B are taken out of the containers, the number of sweets left in container A is the same as the number of sweets left in container B. What is the ratio of the number of sweets in container A to B at first?

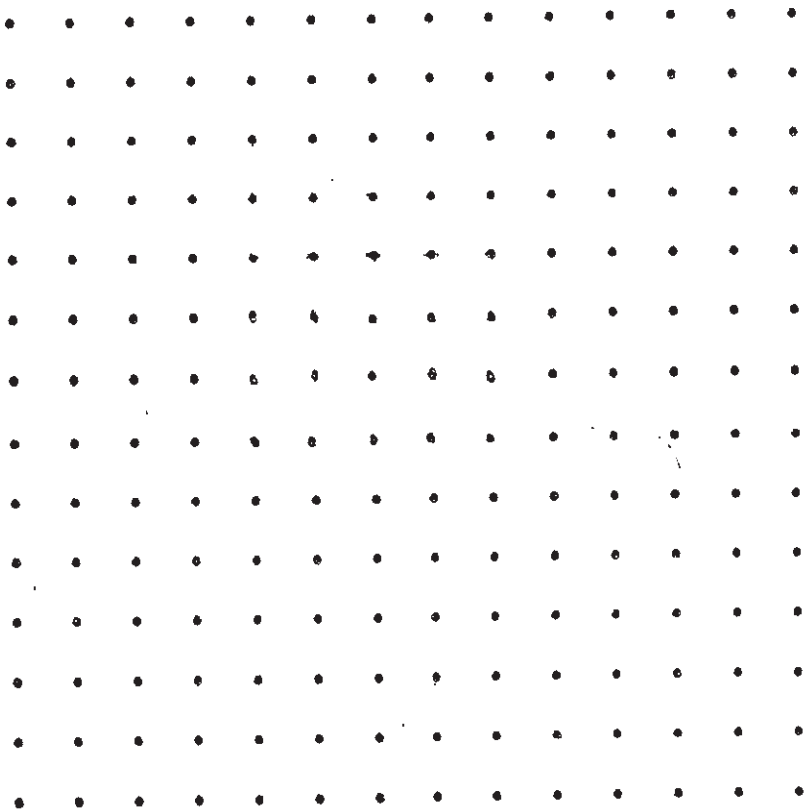
Ans: _____

29. Peter has ~~100~~¹⁰⁰⁰ 40% more marbles than Daryl. Peter gave 20% of his marbles to Daryl and has 56 marbles left. How many marbles does Daryl have at first?

Ans: _____

30. Draw four more of the unit shapes in the space given below to show that it can tessellate.

Do not write in this space.



Total marks for questions 26 to 30

End of Paper 1

(Go to the next page)

Name : _____ (_____) 21 May 2010

Class : P 61 _____



CATHOLIC HIGH SCHOOL
PRELIMINARY EXAMINATION 1

PRIMARY SIX
MATHEMATICS

PAPER 2

Total Time: 1 h 40 min

Parent's Signature: _____

Paper 1 Booklet A	/	20
Paper 1 Booklet B	/	20
Paper 2	/	60
Total Marks	/	100

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are allowed to use a calculator.

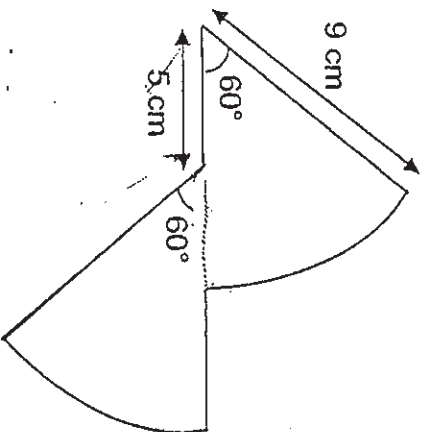
Do not write
in this space.

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. (10 marks)

1. 3y books cost \$10. Find the cost of 9 books. Express your answer in terms of y.

Ans: \$ _____

2. The figure is made of 2 similar segments of a circle. Find the perimeter of the figure. Leave your answer in terms of π .

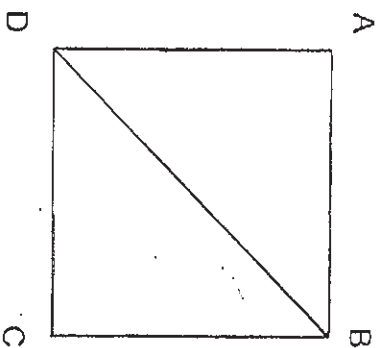


Ans: _____ cm

(Go to the next page)

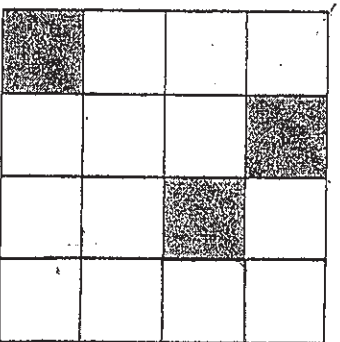
3. ABCD is a square. BD is 18 cm. Find its area.

Do not write
in this space.



Ans: _____ cm²

4. Shade two more squares in the figure to make the figure symmetrical.



(Go to the next page)

Do not write
in this space.

5. The average weight of a group of girls is 42 kg. After including Tom whose weight is 60 kg to the group, the average weight becomes 45 kg. How many girls are there in the group?

Ans: _____

(Go to the next page)

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. (50 marks)

Do not write
in this space.

6. John has \$34 in his piggy bank. There was a mixture of 20 cent and 50 cent coins. There were 5 more 50 cent coins than 20 cent coins in the piggy bank. How many 50 cent coins are there in his piggy bank?

Ans: _____ [3]

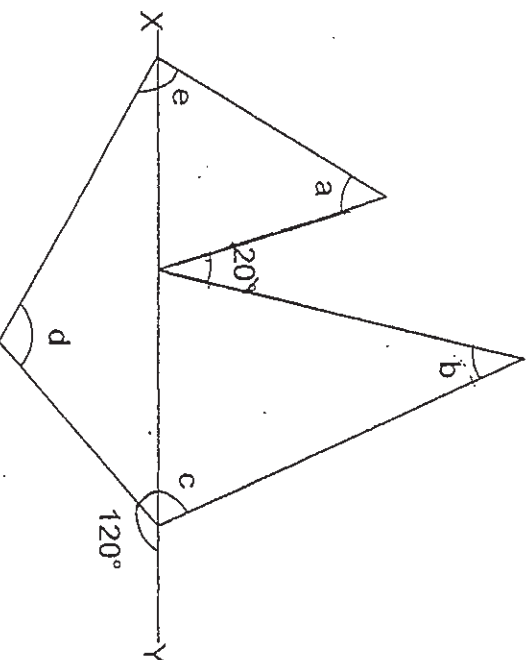
7. A box has a mass of 29 kg when it is $\frac{5}{6}$ filled with sand. When it is $\frac{1}{5}$ filled with sand, it has a mass of 10 kg. Find the mass of the empty box.

Ans: _____ [3]

(Go to the next page)

8. XY is a straight line. Find the sum of $\angle a$, $\angle b$, $\angle c$, $\angle d$ and $\angle e$.

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in this space

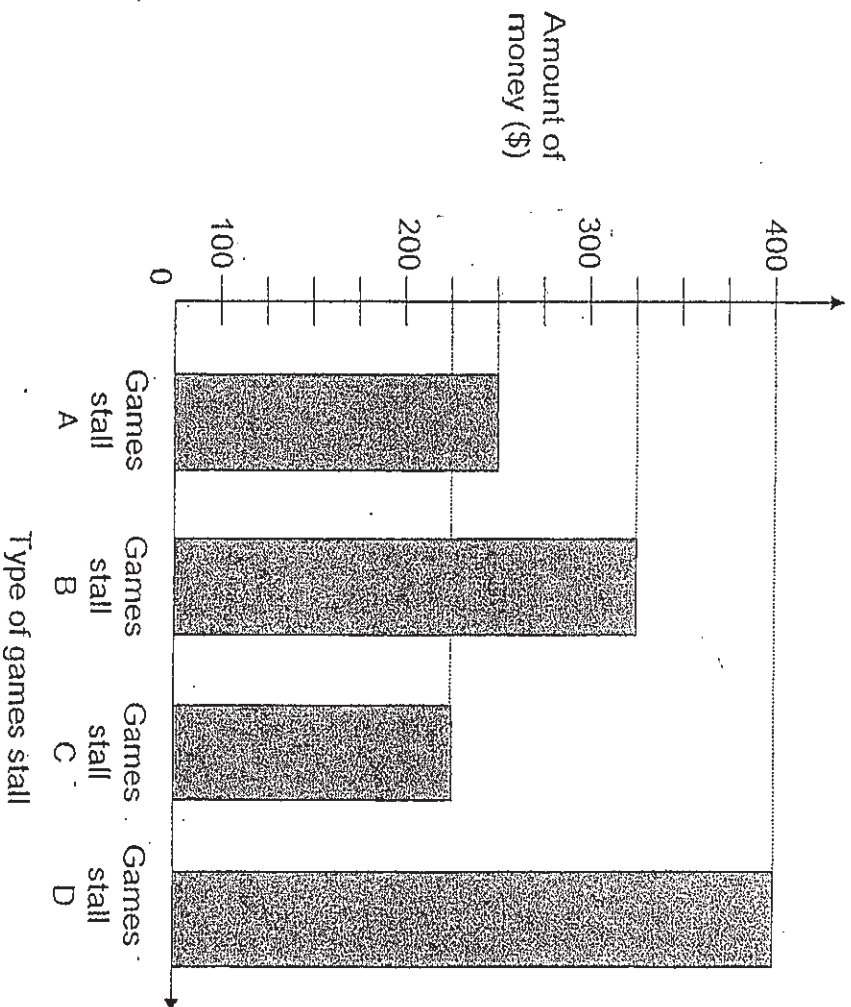


Ans: _____ [3]

(Go to the next page)

9. The graph below shows the amount of money collected from 4 games stalls at a carnival.

Do not write
in this space.



- (a) What is the average amount of money collected from each games stall?

Ans: _____ [1]

- (b) If Games stall C wants its collection to be 20% more than games stall B, how much more money must it earn?

Ans: _____ [2]

10. In the space below, draw a rhombus ABCD in which $\angle BCD$ is 150° .
AB is 5 cm. The line AB has been drawn for you.

Do not write
in this space.



[3]

11. A man travels from City X to City Y at 4 km/h and from City Y to City X at 6 km/h via the same route. The whole journey took 1 hour. Find the distance from City X to City Y.

Ans: _____ [3]

(Go to the next page)

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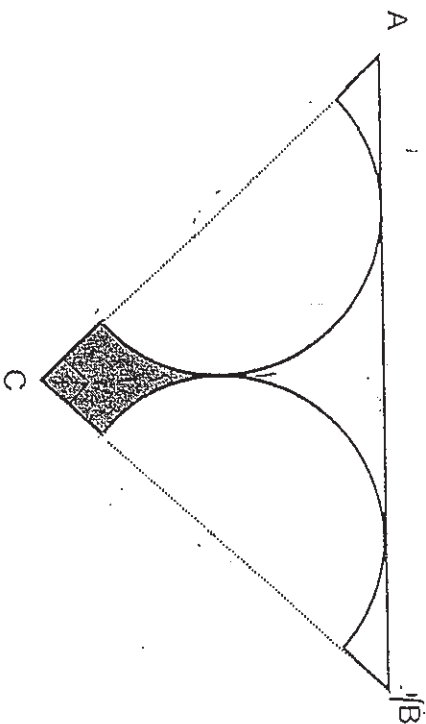
12. Wendy, Jenny and Marcus share a bag of marbles. The number of marbles owned by Wendy is $\frac{1}{3}$ of the total of Jenny's and Marcus's marbles. The total number of marbles owned by Jenny and Wendy is half of what Marcus has. If Wendy has 90 marbles more than Jenny, how many marbles does Marcus have?

Ans: _____ [4]

(Go to the next page)

13.

Triangle ABC is an isosceles triangle. 2 similar semi-circles are cut out from the triangle as shown in the diagram. The radius of the semi-circle is 10 cm. Find the area of the shaded part.
Take $\pi = 3.14$.

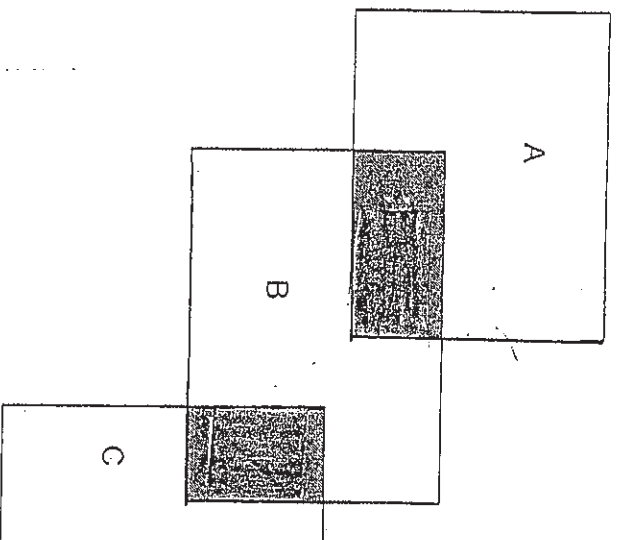


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in this space.

Ans: _____ [4]

(Go to the next page)

14. The figure below shows 3 different rectangles, A, B and C. 20% of rectangle A and 30% of rectangle C is shaded. The shaded area of A is the same as the shaded area of C. What fraction of the figure is shaded if 40% of rectangle B is shaded?



Do not write
in this space.

Ans: [4]

15. Amanda has \$280 more than John. After Amanda spent 20% of her money and John spent 50% of his money, Amanda has \$260 more than John in the end. How much does John have at first?

Do not write
in this space.

Ans: _____ [5]

(Go to the next page)

16. There are some red and blue pencils in a box. If 30 red pencils are taken out from the box, the total number of pencils left will be 8 times the number of red pencils left. If 50 blue pencils are taken out from the box, the total number of pencils left will be thrice that of the number of blue pencils left. How many pencils are there in the box?

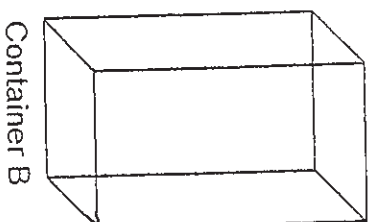
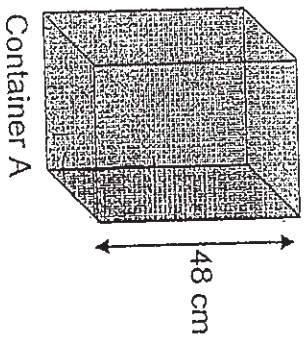
Do not write
in this space.

Ans: _____ [5]

(Go to the next page)

17.

Container A and B are containers with the same square base. Container A contains water filled to the brim while Container B is empty. After A contains water poured into Container B from Container A, the depth of water in Container B is 60% the depth of water left in container A. What is the length of the square base of Container B?



Do not write
in this space.

Ans: _____ [5]

(Go to the next page)

18. The following figures are made up of small squares and dots. Look at the figures below and answer the following questions.

Do not write
in this space.



Figure 1

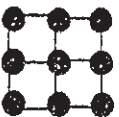


Figure 2

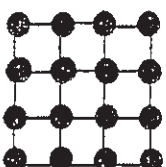


Figure 3

Figure number	Number of small squares	Number of dots
1	1	4
2	4	9
3	9	16

- (a) Calculate the number of small squares for figure 4.
- (b) Calculate the number of dots for figure 10.
- (c) Which figure contains 256 dots?

Ans:(a) _____ [1]

Ans:(b) _____ [2]

Ans:(c) _____ [2]



(Go to the next page)



P6 Prelim 1 2010
Paper 1

1.2	6.2	11.2
2.3	7.4	12.2
3.3	8.2	13.3
4.4	9.3	14.1
5.4	10.1	15.2

(1 mark qns)

16. 0.4% or $\frac{2}{5}\%$
 17. 9201
 18. 0.44 m or $\frac{11}{25}\text{ m}$
 19. 4h 55 min
 20. \$9 60
 21. $(p + 2)$
 22. 5
 23. 100°
 24. 68
 25. $1\frac{1}{2}\text{ m}$ or 1.5 m

(2 marks qns)

26. $38 \div 7$ M1
 $= 5.43$ A1
 27. $\angle ABE = 180^\circ - 110^\circ - 50^\circ$ M1
 $= 20^\circ$ A1
 or $\angle ABE = 60^\circ - 40^\circ$ M1
 $= 20^\circ$ A1
 28. A . B
 $\frac{1}{4} . \frac{3}{5}$
 $\frac{3}{12} : \frac{3}{5}$ M1

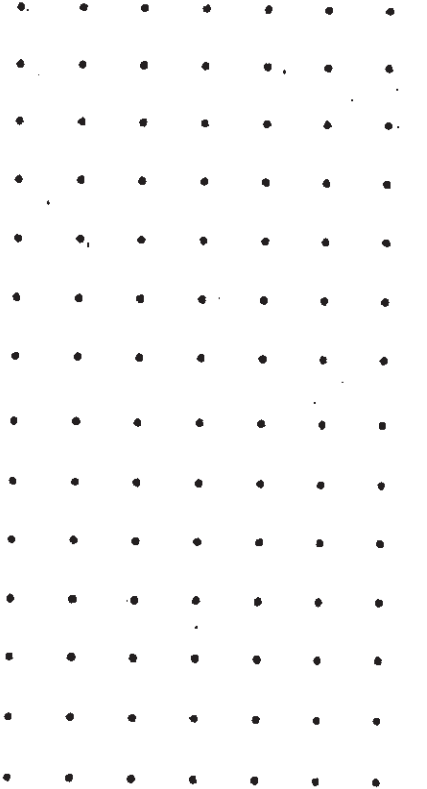
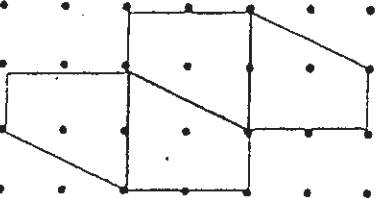
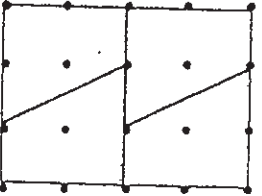
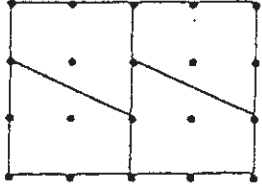
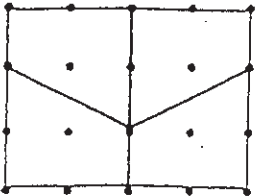
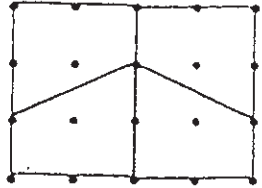
A : B = 12 : 5 A1

29. P \rightarrow 140%
 D \rightarrow 100%

or P \rightarrow 140%
 D \rightarrow 100%

80% of 140% $\rightarrow \frac{80}{100} \times 140$ M1
 $= 112\%$
 112% \rightarrow 56
 100% \rightarrow 50 A1

20% of 140% $\rightarrow \frac{20}{100} \times 140$
 $= 28\%$
 140% - 28% M1
 $= 112\%$
 112% \rightarrow 56
 100% \rightarrow 50 A1



Note: There are more tessellations that can be formed than those drawn above. Please be flexible and award the marks accordingly.

1. $3y$ books \rightarrow \$10
 1 book \rightarrow $\frac{10}{3y}$
 9 books \rightarrow $\frac{10}{3y} \times 9$ M1
 $= \frac{30}{y}$ A1

2. Perimeter of figure \rightarrow $(\frac{120}{360} \times 2\pi \times 9) + 9 + 9 + 10$ M1

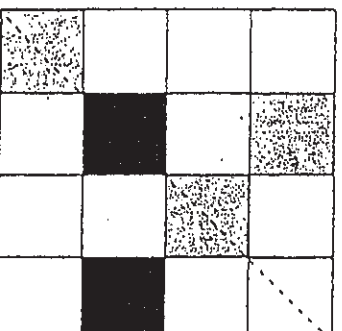
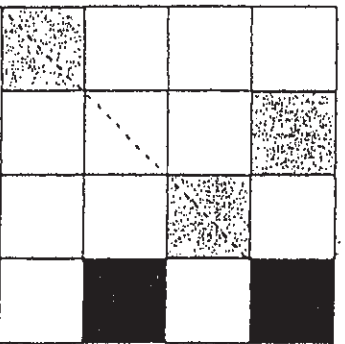
or Perimeter of figure \rightarrow $(6\pi + 28)$ A1
 $(\frac{120}{360} \times 2\pi \times 9) + 9 + 9 + 5 + 5$ M1

$= (6\pi + 28)$ A1

3. Area of square \rightarrow $\frac{1}{2} \times 18 \times 9 \times 2$ M1 or Area \rightarrow $\frac{1}{2}$ of a big square
 $= 162$ A1 \rightarrow $\frac{1}{2} \times 18 \times 18$ M1

$= 162$ A1

4. 2 marks or 0



5. $60 - 45 = 15$ M1
 $15 \div 3 = 5$ A1

	or	No	x	Value = Total Value
6. \$34 - \$2.50	M1	1 u	x	20 = 20 u
= \$31.50		(1 u + 5) x	50	= 50 u + 250
\$31.50 ÷ (50cents + 20 cents)	M1	Total	2 u + 5	<u>70 u + 250</u>
= 45			<u>70 u + 250</u> → 3400	
45 + 5			70 u → 3400 - 250 ...	M1
= 50	A1	1 u	→ 45	
		50 cents	→ 1 u + 5	→ 45 + 5
				M1

7. $\frac{5}{6} - \frac{1}{5}$ M1 or $\frac{5}{6} - \frac{1}{5}$ = 50 A1
 $= \frac{19}{30}$ M1

$\frac{19}{30} \rightarrow 19 \text{ kg}$
 $\frac{1}{30} \rightarrow 1 \text{ kg}$

$\frac{5}{6} - \frac{25}{30} \rightarrow 1 \times 25 \text{ kg}$
 $\frac{1}{5} - \frac{6}{30} \rightarrow 1 \times 6 \text{ kg}$ M1
 $= 6 \text{ kg}$
 $10 \text{ kg} - 6 \text{ kg} = 4 \text{ kg}$ A1

8. Method 1

Part of $\angle e + \angle a + \angle b + \angle c = (180^\circ \times 2) - 160^\circ$ M1
 $= 200^\circ$

Part of $\angle e + \angle d = 120^\circ$

$\angle a + \angle b + \angle c + \angle d + \angle e = 200^\circ + 120^\circ$ M1
 $= 320$ A1

Method 2

3 triangles / 5 angles = $180^\circ \times 3$ M1
 $= 540$
 $\angle a + \angle b + \angle c + \angle d + \angle e = 540^\circ - 160^\circ - 20^\circ$ M1
 $= 320^\circ$ A1

9a $1200 - 4 = \$300$ A1

b. $\frac{120}{100} \times 325$ M1
 $= \$390$
 $\$390 - \$225 = \$165$ A1

or b. $100\% \rightarrow 325$
 $10\% \rightarrow 32.5$
 $120\% \rightarrow 32.5 \times 12$ M1
 $= 390$
 $390 - 225 = \$165$ A1

10.

Rhombus	/	/	/
Angles	/	/	/
Length	/	/	/
Label	/	/	/
	0	2	2

11. T1 : T2 = 6 : 4.
 10 units \rightarrow 1 h

1 unit $\rightarrow \frac{1}{10}$ h M1

Distance $\rightarrow 4\text{km/h} \times \frac{6}{10}$ M1

$= 2.4 \text{ km or } 2\frac{2}{5} \text{ km}$ A1

or

T1 : T2 = 3 : 2
 5 units \rightarrow 1 h

1 unit $\rightarrow \frac{1}{5}$ h M1

T2 $\rightarrow 2 \text{ u} \rightarrow \frac{2}{5} \text{ h}$

Distance $\rightarrow S2 \times T2$

$\rightarrow 6\text{km/h} \times \frac{2}{5}$ M1

$= 2.4 \text{ km or } 2\frac{2}{5} \text{ km}$ A1

12. W : J + M J + W : M
 1 : 3 1 : 2
 3 : 9 4 : 8

J : M : W
 1 : 8 : 3 -----M1

2 units → 90

1 unit → 90 ÷ 2 -----M1

= 45

M → 8 × 45 -----M1

= 360 -----A1

13. Method 1

Area of 1 small square = 10 × 10 = 100 cm²

Area of 4 small squares = 100 cm² × 4 ----- M1

= 400 cm²

Area of 1 circle = 3.14 × 10 × 10 = 314 cm²

4 Shaded areas = 400 cm² - 314 cm² -----M1

= 86 cm²

1 Shaded area = 86 cm² ÷ 4 -----M1

= 21.5 cm² -----A1

- Method 2

$\frac{1}{2} \times 10 \times 10 = 50$ -----M1

Sector 45° = $\frac{1}{8} \times 3.14 \times 10 \times 10$ -----M1

= 39.25

Shaded = (50 - 39.25) × 2 -----M1

= 21.5 cm² -----A1

- Method 3

Length of square → 10 + 10

= 20

Shaded area

→ $\frac{1}{4}$ (square - circle)

→ $\frac{1}{4} [(20 \times 20) - (\pi \times 10 \times 10)]$ -----M3

→ $\frac{1}{4} (400 - 100\pi)$

→ 100 - 25π

→ 21.5 -----A1

14.

A : C
 $\frac{1}{5} : \frac{3}{10}$
 $\frac{3}{15} : \frac{3}{10}$

or

$\frac{1}{5}A \rightarrow \frac{3}{10}C$
 $\frac{3}{15}A \rightarrow \frac{3}{10}C$

A : C = 15 : 10 -----M1

40% B → 6 units

40% B → $\frac{4}{10} \rightarrow \frac{2}{5} \rightarrow \frac{6}{15}$

100% B → $6 \div \frac{40}{100}$ -----M1
 = 15 units

15 u - 6 u -----M1
 = 9 u

Fraction shaded →

$\frac{6}{12 + 3 + 9 + 3 + 7}$ -----M1

$\frac{6}{15+9+10}$ -----M1

$= \frac{6}{34}$

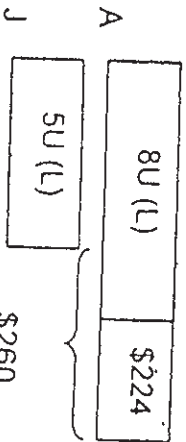
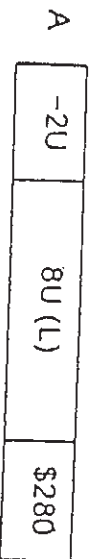
$= \frac{3}{17}$

$= \frac{3}{17}$ -----A1

$= \frac{3}{17}$ -----A1

15.

-56, \$224



-----M1 for \$224 = $\frac{4}{5} \times 280$ or $280 - 56$

-----M1 for 8u, 5u

3 units → \$36

1 unit → \$12 -----M1

J → 10 units → $\$12 \times 10$ -----M1
 = \$120 -----A1

16 A : B

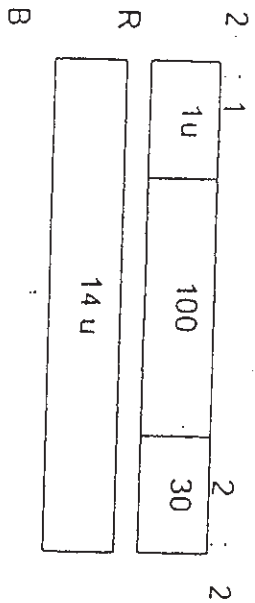
1 : 7

+30 : -50

R : B

1 : 14

+30 : -100 M1



13 units → 130

1 unit → 10 M1

8 units → 80

Total number of pencils → 80 + 30 M1

= 110 A1

17. Depth

B : A

3 : 5 M1

3 units → 288

1 unit → 288 ÷ 3 M1

= 96

8 units → 768

Base area → 768 ÷ 48 M1

= 16

Length → $\sqrt{16}$ M1

= 4 cm A1

Volume

B : A

3 : 5

18a. $4 \times 4 = 16$ A1

or $4^2 = 16$ A1

b. 11×11 M1

= 121 A1

or $(10 + 1)^2 = 11^2$ M1

= 121 A1

c. $\sqrt{256} = 16$ M1

$16 - 1$ M1

= 15 A1