

HENRY PARK PRIMARY SCHOOL
2012 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ ()

Class: Primary 6 _____

Marks:

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

Total Time for Booklets A and B: 50 minutes

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

Follow all instructions carefully.

Answer all questions.

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

The use of calculators is **NOT** allowed.

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. Which of the following are common multiples of 2 and 3?

- (1) 2, 3, 6
- (2) 3, 6, 9
- (3) 3, 6, 12
- (4) 6, 12, 24

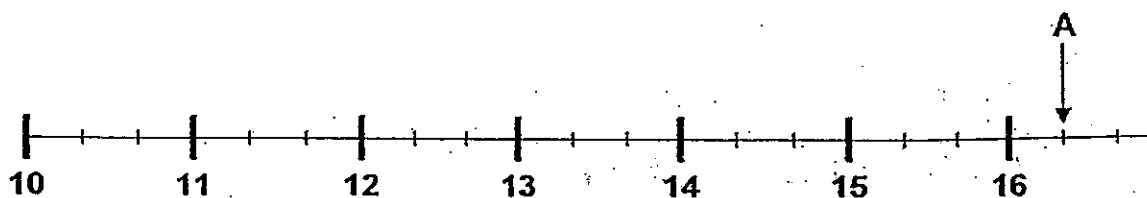
2. What is the difference between 6 tenths and 140 thousandths?

- (1) 0.46
- (2) 0.586
- (3) 0.74
- (4) 0.8

3. Melanie took a plane from Singapore and reached Sydney at 15 00 Singapore time. Her flight lasted 7 h 55 min. At what time did her plane depart from Singapore?

- (1) 07 05
- (2) 10 55
- (3) 19 05
- (4) 22 55

4. Which of the following is closest to the reading indicated by A in the number line shown below?

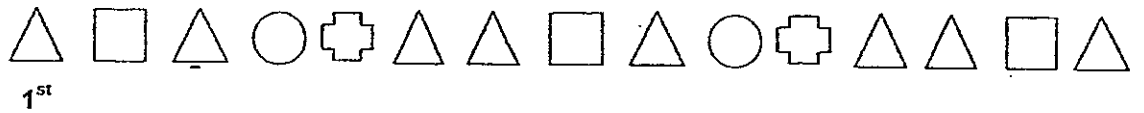


- (1) 16.12
- (2) 16.23
- (3) 16.38
- (4) 16.61

5. The average of 4 numbers is 22. Three of the numbers are 24, 26 and 28. What is the fourth number?

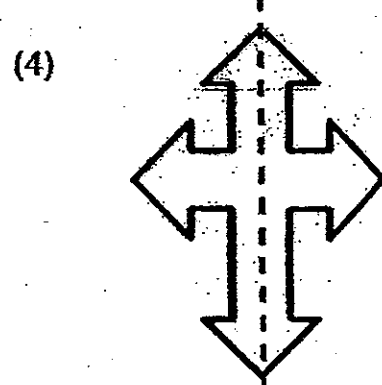
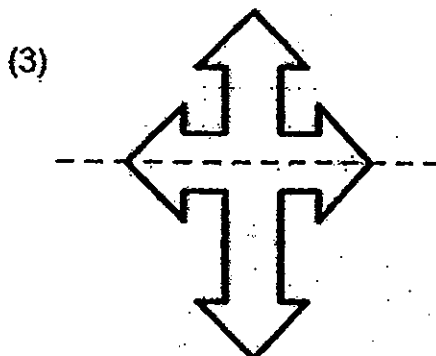
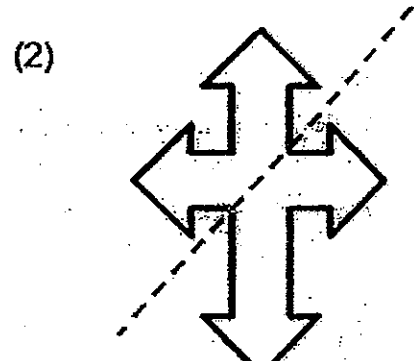
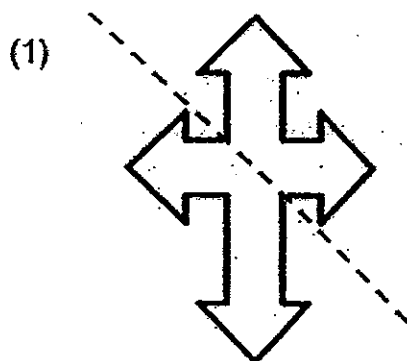
- (1) 10
- (2) 22
- (3) 56
- (4) 88

6. Study the following pattern. What is the 38th shape?

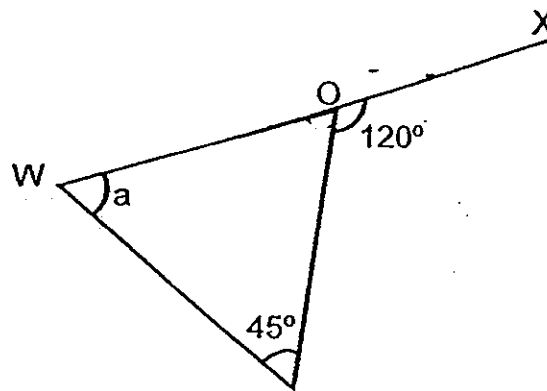


- (1) △
- (2) □
- (3) ○
- (4) ⊕

7. In which of the following figures below is the dotted line a line of symmetry?



8. The diagram shown below is not drawn to scale. WOX is a straight line. Find $\angle a$.



- (1) 45°
(2) 60°
(3) 75°
(4) 80°
9. The ratio of the number of boys to the number of girls in a class is 7 : 3. What is the percentage of the boys in the class?
- (1) 30%
(2) $42\frac{6}{7}\%$
(3) $57\frac{1}{7}\%$
(4) 70%
10. Anna and Emma shared p sweets. Anna got twice as many sweets as Emma. Given that Emma ate 6 sweets, how many sweets had Emma left?
- (1) $\frac{p}{3} - 2$
(2) $\frac{p}{3} - 6$
(3) $2p - 6$
(4) $3p - 6$

11. A square table can seat 8 people, two at each side of the table, as shown in Figure A. How many such tables are required to form a long table, as shown in Figure B, to seat 32 people?

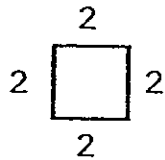


Figure A



Figure B

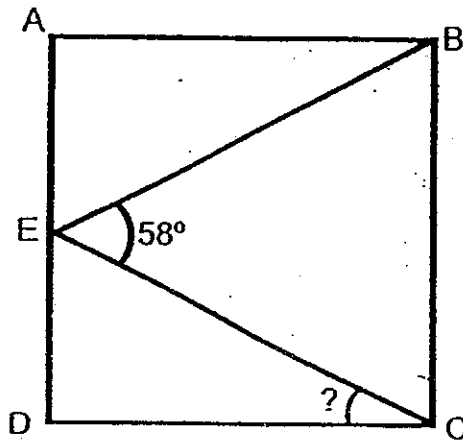
- (1) 10
 (2) 7
 (3) 6
 (4) 4
12. The table below shows the different games played by children at a carnival.

Types of game	Number of children
Shoot the alien	64
Pick a duckling	?
Catch the mosquito	56

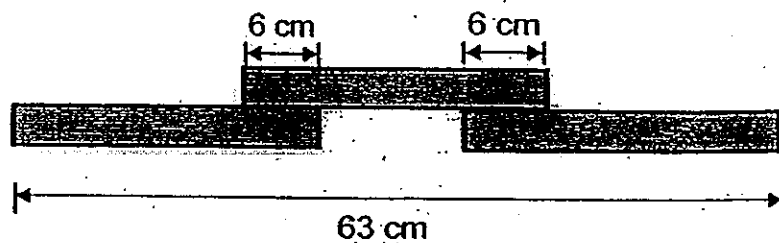
Each child only played one game at the carnival. Given that $\frac{2}{5}$ of the total number of children at the carnival played 'Pick a duckling', how many children played 'Pick a duckling'?

- (1) 20
 (2) 48
 (3) 60
 (4) 80

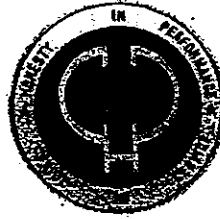
13. The figure below is not drawn to scale. ABCD is a square. AE = ED and $\angle BEC = 58^\circ$. Find $\angle DCE$.



- (1) 29°
 (2) 32°
 (3) 45°
 (4) 61°
14. There are 12 shaded stars and 28 unshaded stars on a piece of drawing. How many more stars must Joel shade so that $\frac{3}{4}$ of the total number of stars are shaded?
- (1) 9
 (2) 18
 (3) 21
 (4) 30
15. Amy took 3 identical sticks to form a structure as shown below. Find the length of each stick.



- (1) 17 cm
 (2) 21 cm
 (3) 25 cm
 (4) 33 cm



HENRY PARK PRIMARY SCHOOL
2012 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ()

Class: Primary 6 _____

Total Time for Booklets A and B: 50 minutes

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of calculator is **NOT** allowed.

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 the missing number in the box.

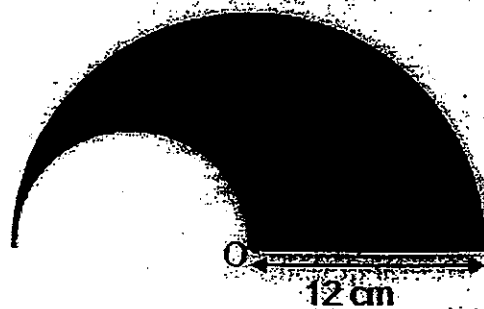
$$7\frac{11}{12} = 7 + \frac{5}{12} + \frac{\boxed{?}}{6}$$

Ans: _____

17. Find the value of $4 \times (7 - 5) + 9 \div 3$

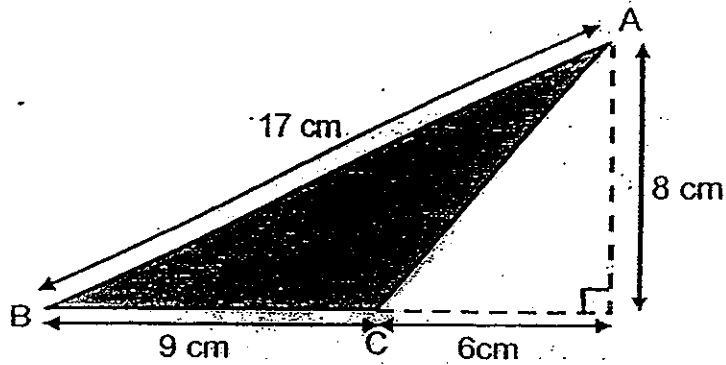
Ans: _____

18. The figure below shows two semicircles. O is the centre of the bigger semicircle. Find the perimeter of the shaded portion. Leave your answer in terms of π .



Ans: _____ cm

19. What is the area of triangle ABC as shown in the figure?



Ans: _____ cm^2

20. A solid figure is made up of exactly 10 identical cubes as shown below. The side of each cube is 5 cm. What is the volume of the figure?



Ans: _____ cm^3

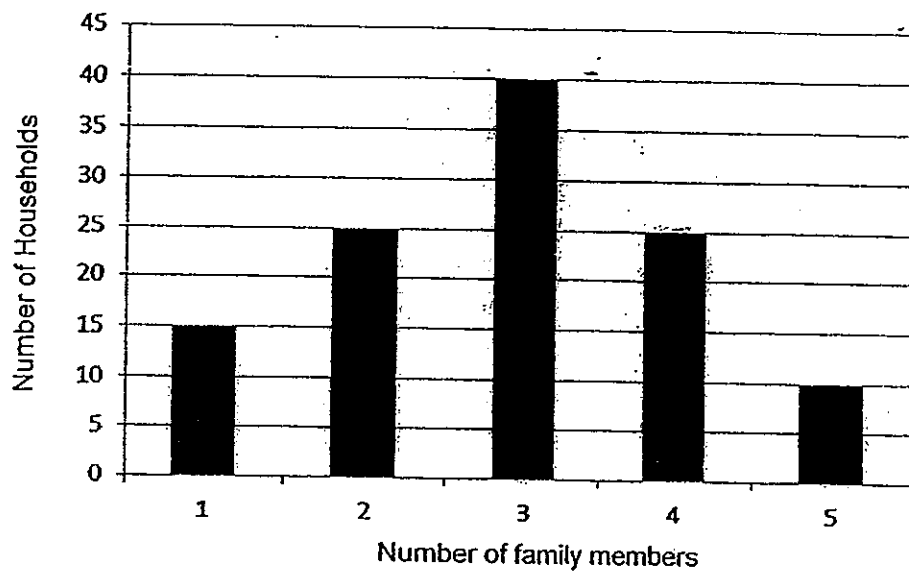
21. The table below shows the parking rates of a carpark.

Time	Charges
From 7.00 a.m. to 5.30 p.m.	\$1.50 per hour or part thereof
From 5.30 p.m. to 12.00 a.m.	\$0.80 per hour or part thereof

Mr Liu parked his car from 4.30 p.m. to 6.45 p.m.
How much did he pay for parking charges?

Ans: \$ _____

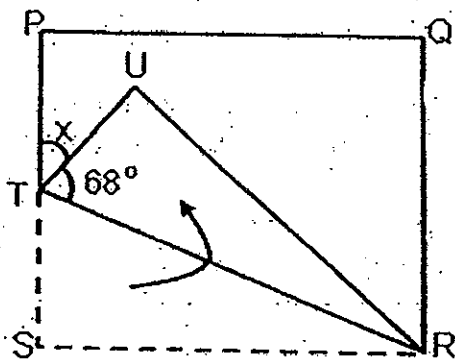
22. The chart below shows the number of family members in each household in a block of flats.



What is the total number of family members in households that have 3 or fewer members?

Ans: _____

23. PQRS is a rectangular piece of paper. A corner of the paper was folded to form triangle RTU. Find $\angle x$.



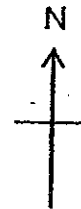
Ans: _____

24. Jean is standing on Square M. She has to move according to the instruction given on the card. On which square will she be standing after Step 5?

Instructions

Step 1: Move north 2 squares
Step 2: Move south-east 2 squares
Step 3: Move south 1 square
Step 4: Move north-west 3 squares
Step 5: Move east 1 square

A	B	C	D	E
J	I	H	G	F
K	L		N	O
T	S	R	Q	P
U	V	W	X	Y



Ans: _____

25. The ratio of the number of apples in box A to the number of apples in box B is 2 : 5. The ratio of the number of apples in box A to the number of apples in box C is 3 : 7. What is the ratio of the number of apples in box B to the number of apples in box C?

Ans:

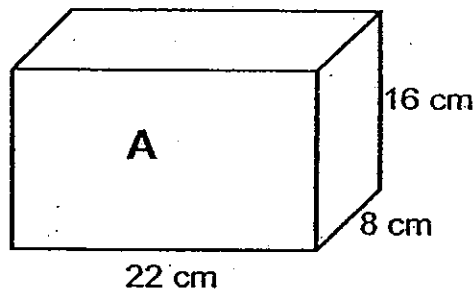
Questions 26 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

26. 36 m of ribbon were shared among some children.

How many children were there if each child received $\frac{3}{4}$ m of ribbon?

Ans: _____

27.



Box A measures 22 cm by 8 cm by 16 cm.

John wants to put as many cubes of side 3 cm as possible into Box A.

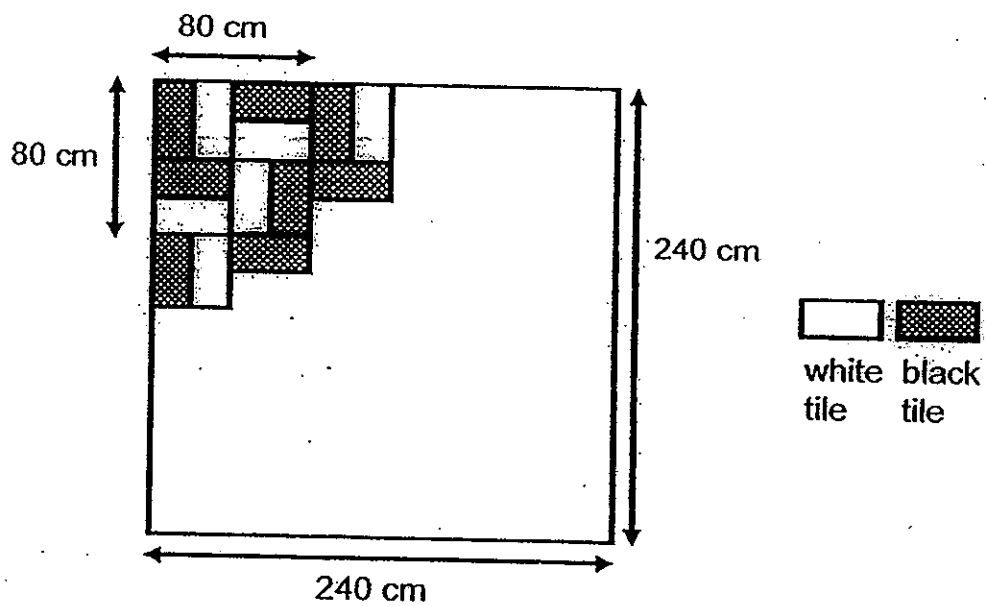
What is the maximum number of such cubes he can put into the box?

Ans: _____

28. $\frac{4}{5}$ of Ryan's marbles is equal to $\frac{3}{7}$ of Nick's marbles.
Express Ryan's marbles as a fraction of Nick's marbles.

Ans: _____

29. Mr Lee covered a square floor completely with identical rectangular black and white tiles by using the tiling pattern shown below.



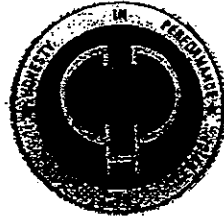
How many white tiles did he use altogether?

Ans: _____

30. Mrs Wong had \$480. She gave 60% of it to her son. Her daughter was given 75% of the remainder. How much money did her daughter get?

Ans: \$ _____

End of Paper



HENRY PARK PRIMARY SCHOOL
2012 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 2

Name: _____ ()

Class: Primary 6 _____

Time for Paper 2: 1 h 40 min

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

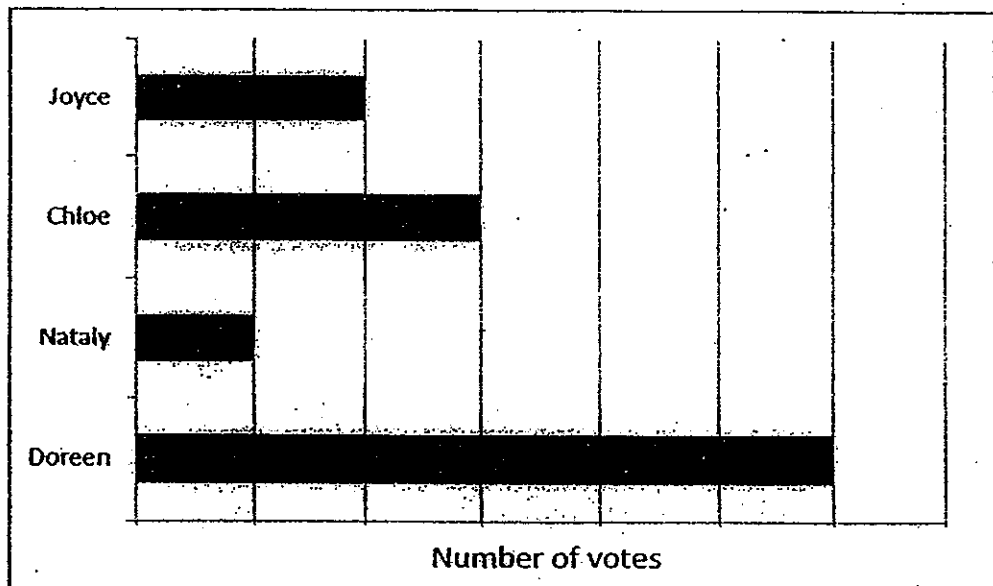
PAPER 2

Questions 1 to 5 carry 2 marks each. Show your working and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

1. There are 25 000 pupils in a school. If 0.4 of them are girls, how many more boys than girls are there?

Ans: _____

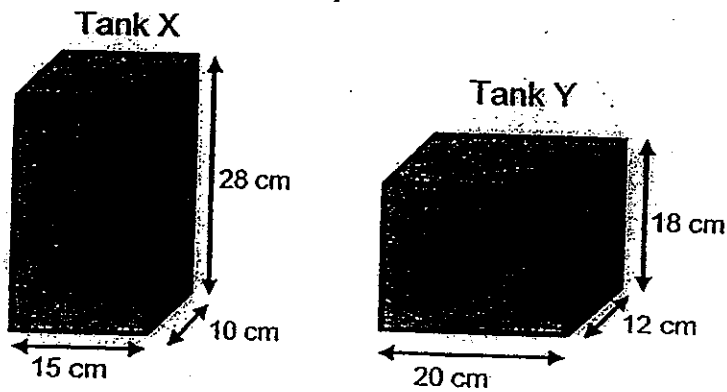
2. The bar chart shows the number of votes received by four contestants in a beauty contest.



Given that Chloe had 102 votes, what is the total number of votes received by the four contestants?

Ans: _____

3. Tank X and Tank Y are completely filled with water.
What is the difference in the volume of the water in both tanks?

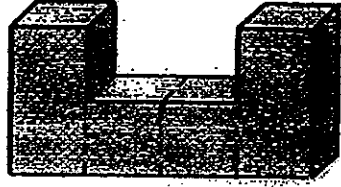


Ans: _____ cm^3

4. The table below shows the average number of fish sold by Nibbles Fish Farm over three periods last year. Find the average number of fish sold per month last year.

Period	Jan - Apr	May - Aug	Sep - Dec
Average number of fish sold for each period	300	0	420

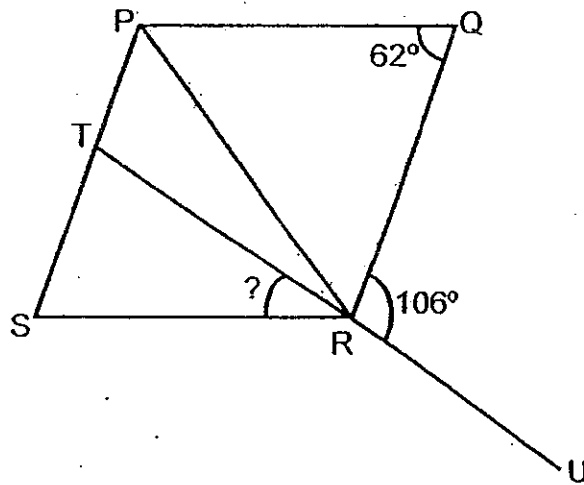
5. Cheng Hao dropped the block of wood shown below into a tin of grey paint. He then cut it into six identical cubes along the dotted lines shown and took it apart. The total unpainted area of the six cubes was 360 cm^2 . Find the volume of each cube.



Ans: _____ cm^3

For questions 6 to 18, show your working clearly 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)

6. - The figure below is not drawn to scale. PQRS is a rhombus. TRU is a straight line. $\angle QRU$ is 106° and $\angle PQR$ is 62° . Find $\angle TRS$.



Ans: _____ [3]

7. Nadyne bought 100 whistles and party hats for her birthday party. After giving 0.6 of the whistles and another 37 party hats away, she had the same number of whistles and party hats left. How many party hats did she buy?

Ans: _____ [3]

8. Daniel had a total of 240 red and yellow rubber bands. In a game, he lost $\frac{3}{4}$ of his red rubber bands and $\frac{3}{5}$ of his yellow rubber bands. Given that he had 72 rubber bands left after the game, how many yellow rubber bands were there at first?

Ans: _____ [3]

9. 5 shirts cost $\$(2p + 10)$ and 2 ^{each pair} ~~pairs~~ of pants cost $\$3p$ ~~each~~. If $p = 25$, how much money does it cost to buy 2 shirts and 2 pairs of pants?

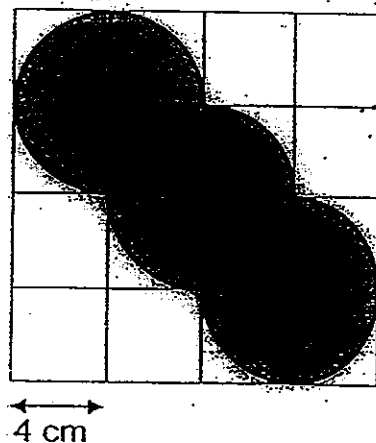
Ans: _____ [3]

10. A quadrant with a radius of 15 cm has the same area as a triangle with a height of 15 cm. Find the base of the triangle. (Take $\pi = 3.14$)

Ans: _____ [3]

11. The figure below is drawn on square grids and made up of similar quadrants and similar squares.

- a) Find the area of the shaded figure. (Take $\pi = 3.14$)
b) Find the perimeter of the shaded figure. (Take $\pi = 3.14$)



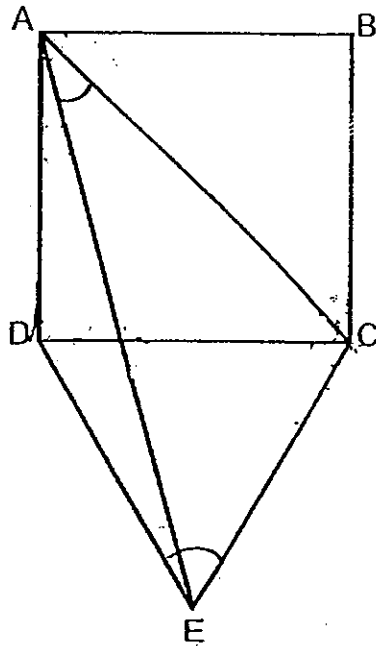
Ans: (a) _____ [2]

(b) _____ [2]

12. In the figure below, ABCD is a square and CDE is an equilateral triangle.

(a) Find $\angle CAE$.

(b) Find $\angle CEA$.



Ans: (a) _____ [3]

13. Nicholas drove from Village A to Village B for $\frac{1}{2}$ h at 60 km/h.

Then he drove for another 2 h from Village B to Village C at 70 km/h.

(a) What was the total distance travelled by Nicholas?

(b) What was the average speed taken to drive from Village A to Village C?

Ans: (a) _____ [2]

(b) _____ [2]

14. The ratio of the number of boys to the number of girls in the school hall was 5 : 3. The number of boys to the number of girls in AVA room was 7 : 1. There were twice as many children in the school hall as in the AVA room.
- (a) What was the ratio of the number of boys in the school hall to the number of girls in the AVA room?
- (b) When 18 boys left and 16 girls went into the AVA room, the ratio of the number of boys to the number of girls became 2 : 1. How many girls were there in the AVA room in the end?

Ans: (a) _____ [1]

(b) _____ [3]

15. Darren bought some watermelons, jackfruits and durians. $\frac{5}{12}$ of the fruits bought were watermelons, $\frac{1}{4}$ of the fruits bought were jackfruits and the rest were durians. A watermelon costs \$2, a jackfruit costs \$4 and a durian costs twice as much as a jackfruit. How many fruits did Darren buy given that he paid \$324 altogether?

16. Anita was given an allowance of \$160 where she spent 20% of it on transport, 50% on food and saved the rest. Her allowance was increased the following month. She spent the same amount of money on transport and increased her spending on food by \$50. The remaining 19% of the allowance was saved. What was the percentage increase in her allowance?

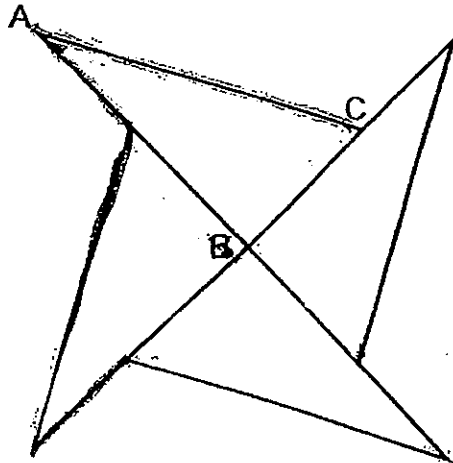
Ans: _____ [5]

17. Carina and Elaine each had some money. If Carina spent 3 times as much Elaine, Carina would have \$85 left when Elaine had used up all her money. If Elaine spent 3 times as much as Carina, Carina would have \$597 left when Elaine had used up all her money. How much money did Carina and Elaine each have?

Ans: Carina: _____, Elaine: _____ [5]

18. James cut out four identical right-angled triangles and formed the figure shown below. The figure has a perimeter of 72 cm. The shortest side of the triangle, BC, measures 9 cm.

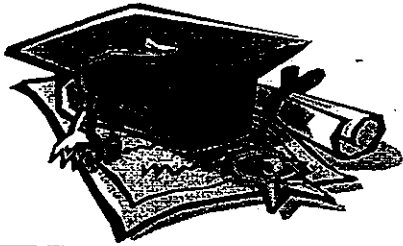
- (a) Find the perimeter of each triangle.
- (b) The longest side of the triangle, AC, measures 6 cm shorter than the sum of the other 2 sides of the triangle. Find the area of the whole figure.



Ans: (a) _____ [2]

(b) _____ [3]

End of Paper



ANSWER SHEET

EXAM PAPER 2012

SCHOOL : HENRY PARK
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
4	1	1	3	1	2	4	3	4	2	2	4	1	2	3

- 16)3 17)11 18)($18\pi+12$) 19)36cm² 20)1250cm³
21)\$3.10 22)185 23)44 24)square C 25)6:15:14
26)48 children 27)70 cubes 28)15/28 29)36white tiles 30)\$144

Paper 2

1) $0.4 = \frac{4}{10} = \frac{40}{100}$
 $\frac{40}{100} \times 25000 = 10000$
 $\frac{60}{100} \times 25000 = 15000$
 $15000 - 10000 = 5000$

2) $102 \div 3 = 34$
 $68 + 102 + 34 + 204 = 408$ votes.

3) Tank X $\rightarrow 15 \times 10 \times 28 = 4200$
Tank Y $\rightarrow 20 \times 12 \times 18 = 4320$
 $4320 - 4200 = 120$ cm³

4) $300 \times 4 = 1200$
 $4 \times 0 = 0$
 $4 \times 420 = 1680$
 $1680 + 1200 = 2880$
 $2880 \div 12 = 240$

5) 10 faces unpainted = 360
 1 square face = $360 \div 10 = 36$
 Side of cube = 6
 Vol. = $6 \times 6 \times 6 = 216\text{cm}^3$

6) $\angle X = 180^\circ - 62^\circ / 2 = 59^\circ$
 $\angle Y = 180^\circ - 106^\circ - 59^\circ = 15^\circ$
 $\angle TRS = 59^\circ - 15^\circ = 44^\circ$

7) $100 - 37 = 63$
 $63 \div 14 = 4.5$
 $4.5 \times 4 = 18$
 $18 + 37 = 55$ party hats.

8) Red	Yellow	working
4	5	240
1	2	72
4	8	$72 \times 4 = 288$
0	3	$288 - 240 = 48$
0	1	$48 \div 3 = 16$
0	5	$5 \times 16 = 80$

9) 1 shirt = $\$(2p+10/5) = \$(2 \times 25 + 10/5) = \$12$
 1 pant = $\$3p = \$3 \times 25 = \$75$
 Total = $(12 \times 2) + (2 \times 75) = 24 + 150 = \174

10) $\frac{1}{2} \times 15 \times h = 176.625$
 $15 \times h = 176.625 \times 2$
 $h = 176.625 \times 2 / 15 = 23.55\text{cm}$

11) a) $2 \times 3.14 \times 4 \times 4 = 100.48$
 $2 \times 4 \times 4 = 32$
 $32 + 100.48 = 132.48$
 b) $2 \times 3.14 \times 8 = 50.24\text{cm}$

12) a) $90^\circ + 60^\circ = 150^\circ$
 $\angle X = 180^\circ - 150^\circ / 2 = 15^\circ$
 $\angle CAE = 90^\circ - 45^\circ - 45^\circ = 30^\circ$
 b) $\angle CEA = 60^\circ - 15^\circ = 45^\circ$

13)a) total dist = $\frac{1}{2} \times 60 + 2 \times 70$
 $= 30 + 140 = 170\text{km}$

b) Ave. speed = $170 / (\frac{1}{2} + 2) = 68 \text{ km/h}$

14)a) 10 : 1

b) 26 girls

15) No	value (\$)	total.no x value
5	2	10
3	4	12
4	8	<u>32</u>
		54

$54u = 324$

$1u = 324 \div 54 = 6$

$(5+3+4)u = 6 \times 12 = 72 \text{ fruits.}$

16) This month:

$T = 20\% \times 160 = 32$

$F = 50\% \times 160 = 80$

Rest = $30\% \times 160 = 48$

Next month:

$T = 32$

$F = 80 + 50 = 130$

Total = $32 + 130 = 162$

$(100 - 19)\% \text{ allowance} = 162$

100% allowance = $162 / 81 \times 100 = 200$

% increase = $200 - 160 / 160 \times 100\% = 25\%$

17) $8u = 597 - 85 = 512$

$1u = 64$

Elaine at first = $3 \times 64 = \$192$

Carina at first = $64 + 597 = \$661$ or $64 \times 9 + 85 = \$661$

18)a) $72 \div 4 = 18$

$18 + 9 + 9 = 36\text{cm}$

b) $AB + BC = (36 + 6) \div 2 = 21$

$AB = 21 - 9 = 12$

$\frac{1}{2} \times 9 \times 12 \times 4 = 216\text{cm}^2$

