PART A (Questions 1 to 25)

For each question, choose the best answer and write the letter A, B, C or D in the space next to the question number on the ANSWER SHEET.

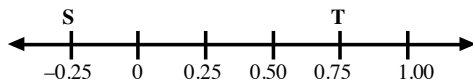## QUESTION 1

What is the value of *x*?

$$\frac{1}{4} \times \frac{3}{6} = \frac{1}{x}$$

A. 3   B. 4

C. 8   D. 24

QUESTION 2

Below is a number line.

What is the distance between S and T?

A. 0.45 units   B. 0.50 units

C. – 0.50 units   D. 1 unit

QUESTION 3

The red, green, and black lollies in a packet are in the ratio of 2:3:5

How many green lollies and black lollies are there, if there are 10 red lollies?

A.   6 green lollies and 15 black lollies

B.   15 green lollies and 25 black lollies

C.   25 green lollies and 15 black lollies

D.   20 green lollies and 25 black lollies

QUESTION 4

Add the following fractions and give your answer in decimal.

$$2 + \frac{2}{1000} + \frac{1}{10} + \frac{3}{100} =$$

A.   2.213   B.   2.123

C.   2.321   D.   2.132

QUESTION 5

What is the price of a K70.00 fan, after a discount of 20%?

A.   K14   B.   K50

C.   K56   D.   K60

QUESTION 6

Simplify $2^0 - 5$.

A. -4 B. $-4\frac{1}{2}$

C. $4\frac{1}{2}$ D.   4

QUESTION 7

Mark worked on a garden plot, 20.8 m long and 11.5 m wide.

Calculate the perimeter of Mark's garden. *Give your answer in centimetres.*

A.   6 460   B.   3 230

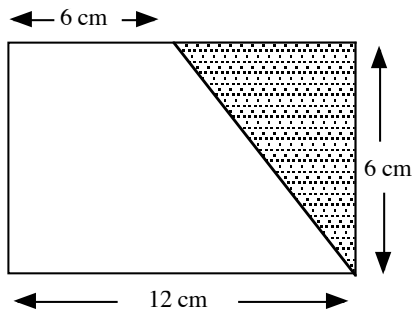C.   64.6   D.   32.3

QUESTION 8

Villages A and B are located on a map which was drawn to a scale of 1 cm = 10 000 m.

The two villages are 20 cm apart on the map. What is the real distance in kilometres between the two villages?

A.   10   B.   200

C.   20 000   D.   200 000

QUESTION 9

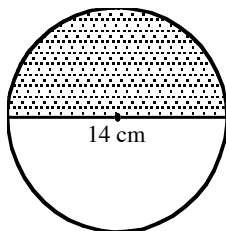The diagram shows a rectangle. Its measurements are as indicated.

The shaded area of the rectangle is;

A.   72 cm^2 B.   54 cm^2

C.   36 cm^2 D.   18 cm^2

QUESTION 10

The diagram below shows a circle with the diameter of 14 cm.

Calculate the area of the <u>shaded</u> part of the circle. Give your answer in cm^2.

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

A.   22   B.   44

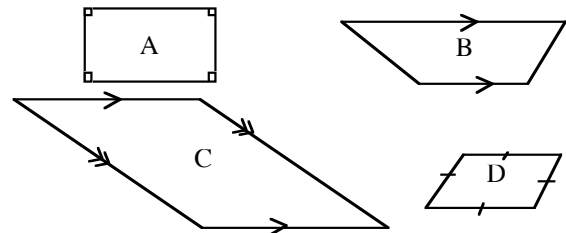C.   77   D.   154

QUESTION 11

A 5 litre cordial was served equally to 10 students.

How much cordial did each student drink? Give your answer in millilitres.

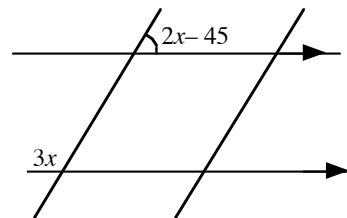A.   0.05   B.   0.5

C.   50   D.   500

QUESTION 12

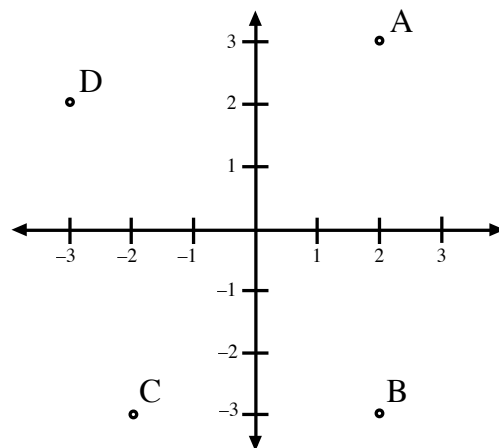Which of the following figures is not a parallelogram?

QUESTION 13

What is the value of *x*?

A. 30^0 B. 45^0

C. 90^0 D. 180^0

QUESTION 14

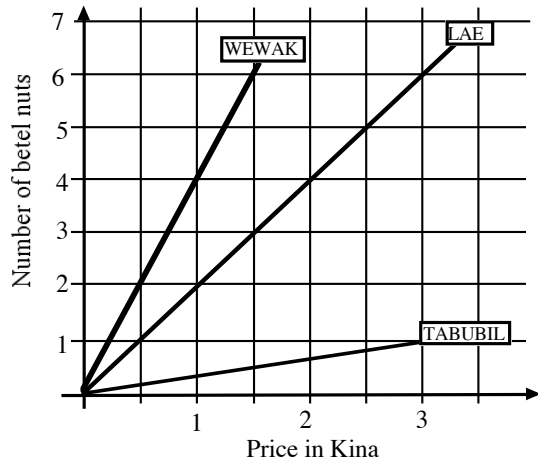Which of these Points A, B, C or D represents the coordinates (2, -3)?

QUESTION 15

How many minutes are there in 2 days?

A.	1440	B.	2880
C.	4320	D.	5760

QUESTION 16

The graph below shows the price of betel nuts in three different towns in PNG.

How many betel nuts can you buy with K1.50 in Wewak?

A.	3	B.	5
C.	6	D.	7

QUESTION 17

The following children's body temperatures were tallied at a clinic.

Temperature (°C)	Tally
35	III
36	II
37	III

What was the average temperature in recorded for the day at the clinic?

A.	35.5 °C	B.	36 °C
C.	36.5 °C	D.	37 °C

QUESTION 18

There are 10 tea cups, and each cup can take 15 grams of sugar to sweeten the tea.

How much sugar can be taken to sweeten all 10 cups of tea?

A.	100 g	B.	150 g
C.	1000 g	D.	1500 g

QUESTION 19

The maximum hand luggage weight on an aircraft is 16 kilograms. Michael's luggage weighs 11.45 kilograms.

How many kilograms less is Michael's hand luggage? (*Give your answer to the nearest one decimal place*).

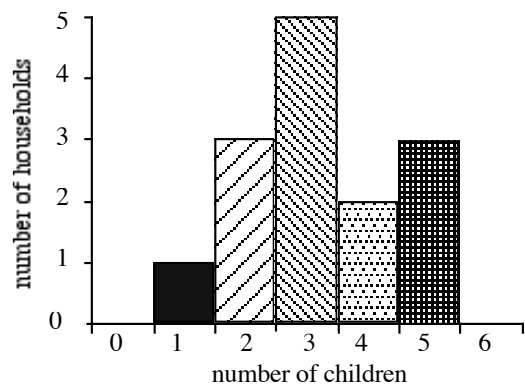|			
A.	4.4	B.	4.5
C.	4.55	D.	4.6

QUESTION 20

Calculate 1.2 x 0.12 and express your answer to the nearest tenth.

A.	0.1	B.	0.14
C.	0.15	D.	0.16

Questions 21 and 22 refer to the following information.

The column graph below represents the number of children per household in a village.

QUESTION 21

What is the total number of children in the village?

A.   50   B.   45

C.   14   D.   12

QUESTION 22

How many households have more than two children?

A.   10   B.   11

C.   13   D.   14

QUESTION 23

Mary is x years old. Ben is 5 years older than Mary. Jack is 3 years older than Ben. The sum of their ages is 40.

Which equation represents the information?

A. $x + 8 = 40$ B. $3x + 8 = 40$

C. $x + 13 = 40$ D. $3x + 13 = 40$

QUESTION 24

Simplify the expression; $6a + 2(a + 4)$

A. $8(a + 24)$ B. $8(a + 2)$

C. $8(a + 1)$ D. $8(a + 4)$

QUESTION 25

In the expression $4x^2yz^3 + 2xyz^2$,

What is the highest common factor?

A. $4x^2yz^3$ B. $2xyz^2$

C. $8x^3y^2z^5$ D. $8xyz$

TURN TO THE NEXT PAGE FOR PART B

PART B (Questions 26 to 45)

For each question in this part work out the correct answer and write it in the space provided on the ANSWER SHEET.

(1 mark each, total: 20 marks)

QUESTION 26

What number multiplied by 3 gives 162 as the product?

QUESTION 27

A car uses 10 litres of petrol to travel 25 km. Calculate the amount of petrol in litres needed to travel 100 km.

QUESTION 28

A commission of five percent is paid to a salesman who sold an electrical item for K200.00.
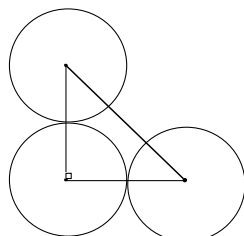
How much money is he paid as commission?

QUESTION 29

Three boys buy 15 oranges. They share all 15 oranges among themselves. The first boy gets 6 oranges. The second boy gets 3 oranges.

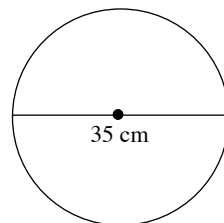What percentage of the oranges did the third boy get?

QUESTION 30

The diagram shows 3 identical circles with a radius of 4 cm each.

Find the area of the triangle in cm^2?

QUESTION 31

The circle below has a diametre of 35 cm. Calculate its circumference. *Give your answer in centimetres.* (Use $\pi = \frac{22}{7}$)
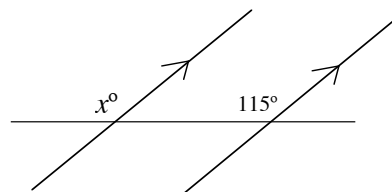

35 cm

QUESTION 32

A bucket holds 8.8 litres of water. How many times would a container holding 880 ml fill the bucket?

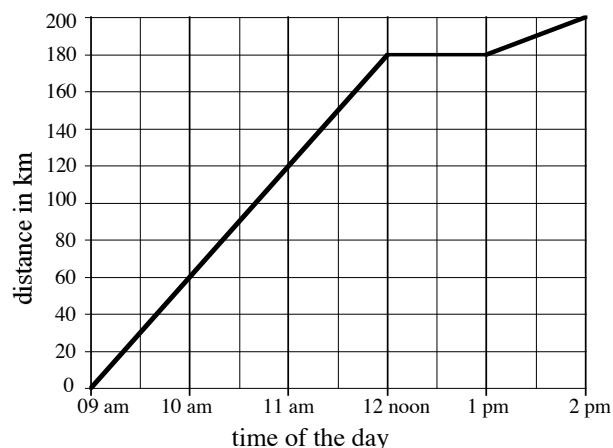**QUESTION 33**

The diagram shows two parallel lines and a transversal cutting through them. Find the size of the angle marked with letter x.

$x°$ $115°$

Questions 34 and 35 refer to the following information.

This graph shows Raka's trip to visit his friend.

QUESTION 34

What is Raka's average speed in km/h in the first 3 hours of his trip?

QUESTION 35

How many hours did it take for him to rest?

QUESTION 36

A deep freezer the temperature is normally –15°C. During a power blackout, the temperature increased by 16°C.

What is the new temperature in the deep freezer?

QUESTION 37

A small bridge can only take 0.2 tonnes of weight across the river at any one time. Two boys weigh 50 kg, three boys weigh 65 kg and the other two boys weigh 70 kg.

What is the minimum number of trips the boys will make across the bridge?

Questions 38 and 39 refer to the following information.

A group of 5 students set for a mathematics test, out of 10, and scored the following test marks.

3,7,6,4,5

QUESTION 38

What percentage of students scored a test mark below the *median* score?

QUESTION 39
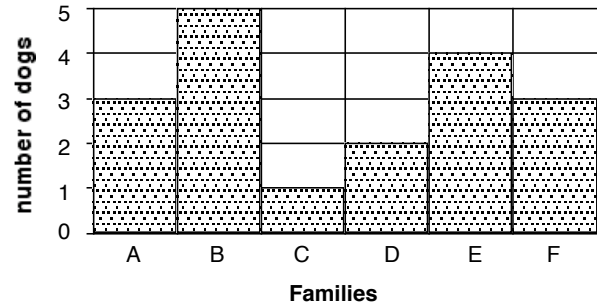
What is the average score?

QUESTION 40

Hawap buys a carton of tinned fish containing 48 tins for K192.00.

How much should he sell each tin of fish to get K240.00?

For Questions 41 & 42 refer to the graph below.

The column graph below shows the number of dogs per family in a village.
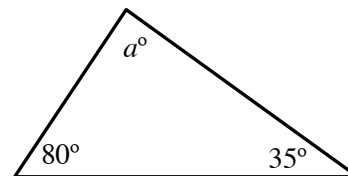

QUESTION 41

Which family has the most number of dogs?

QUESTION 42

What is the mean number of dogs per family in the village?

QUESTION 43

Find the value of angle a in the triangle below.

QUESTION 44

Study the number pattern below.

$$1, 4, 9, 16, R, 36, 49 \ldots$$

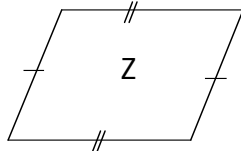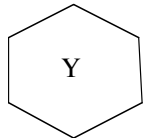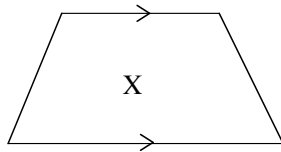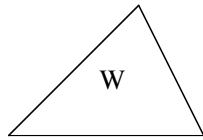What is the missing number R in this sequence?

QUESTION 45

$x = 5$ and $y = 6$. What is $5y + 2(6x)$

TURN TO THE NEXT PAGE FOR PART C

PART C (Question 46)

QUESTION 46

Answer questions relating to the following polygons.

W

X

Y

Z

(i) What is the minimum number of triangles you can get from the polygon X?

(ii) What is the interior angle sum in the polygon Y?

(iii) If all the angles in polygon Z were all right angled, what would the polygon be?

(iv) The two <u>arrows</u> on the opposite side of the polygon X indicates that the two lines are _____.

(v) Which polygon W, X Y or Z would use A= $\frac{1}{2}$ bh to calculate its area?

END OF EXAMINATION

SCHOOL CERTIFICATE EXAMINATION – 2011

MATHEMATICS – ANSWER SHEET

MARKER 1

YEAR		PROV.	SCHOOL		CAND No.		
1	**1**						

NAME	
SCHOOL	

MARKER 2

PART A: **(QUESTIONS 1 TO 25)** Write the letter of your answer next to each question number below.

1	
2	
3	
4	
5	

6	
7	
8	
9	
10	

11	
12	
13	
14	
15	

16	
17	
18	
19	
20	

21	
22	
23	
24	
25	

PART B **(QUESTIONS 26 TO 45)** Write your answer next to each question number below.

26	
27	
28	
29	
30	

31	
32	
33	
34	
35	

36	minutes
37	
38	
39	km
40	

PART C **(QUESTION 46)**

41	%
42	(___ , ___)
43	years
44	hrs
45	cm

46	a) K	
	b) K	
	c)	litres
	d)	hours
	e)	%

Answer Sheet Insert-   *i -*

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