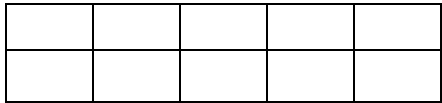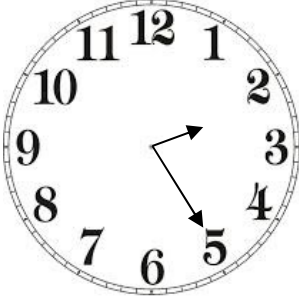# TEST 16

MATHEMATICS TEST 16   TIME- 75 MINUTES
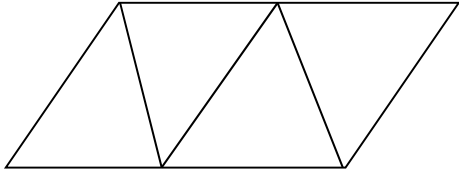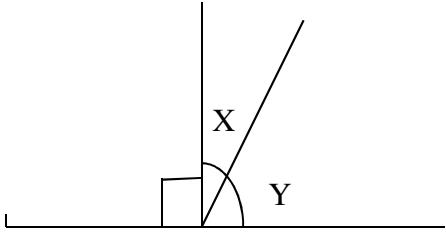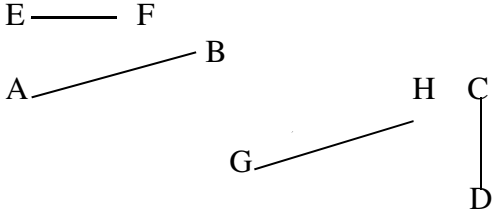
SECTION 1

Each question is worth 1 mark. Answer ALL questions. Show ALL working in the Working Column.

No.	Items	Working Column	Mark
1.	Write in figures: Seven hundred and two thousand and nine. Answer _____	**702 009**	
2.	Multiply: 124 by 25 Answer _____	124 x 25 **= 3100**	
3.	Express 0.375 as a percent. Answer _____	0.375 x 100 **= 37.5%**	
4.	Shade $\frac{3}{5}$ of the shape below.		
5.	MULTIPLY : $\sqrt{144}$ x 6 Answer _____	$\sqrt{144}$ x 6 = 12 x 6 **= 72**	

6.	Calculate the difference between 26 and 2.6 Answer _____	$\begin{array}{r} 26.0\ - \\ \underline{2.6} \\ \underline{\mathbf{23.4}} \end{array}$	
7.	Complete the statement below: 384 + 29 = 129 + ☐ Answer _____	384 + 29 = 413 413 − 129 ☐ = **284**	
8.	The scores made by 5 batsmen were as follows: 39, 12, 47, 12, 5 What is the **mode** of the scores? Answer _____	**12**	
9.	A length of wood, 2.4m long is divided into strips. Each strip is 0.08m long. How many strips can be obtained from the length of wood? Answer _____	$2.4 \div 0.08$ $= 240 \div 8$ **= 30 strips**	
10.	Express 36 cents as a decimal fraction of $2.00. Answer _____	$\frac{36}{200} = \frac{18}{100}$ $18 \div 100$ **= 0.18**	

11.	Father arrived at his office at 8:10 am. If his journey took him $\frac{2}{3}$ hours, at what time did he leave home? Answer _____	$\frac{2}{3}$ x $\frac{60}{1}$ = 40 mins 8:10 - :40 **= 7:30 am**	
12.	Jerry earned $640.00 for working 40 hours. Calculate his hourly rate of pay. Answer _____	40 hours = $640 1 hour = $640 ÷ 40 **= $16**	
13.	1 Litre = 1000cm^3. How many litres of water will fill a tank that has a volume of 25,000cm^3? Answer _____	25000 ÷ 1000 **= 25 L**	
14.	The clock shown below is 25 minutes fast. To which number should the longer hand point to show the correct time? Answer _____	**12**	

15.	A girl has two pieces of ribbon. The first piece is 0.5cm longer than the second piece. If the second piece is 15.75cm long, calculate the length of the first piece. Answer _____	$15.75 + 0.5$ **= 16.25cm**	
16.	Name the solid that can be formed from the net shown below. Answer _____	**Triangular Based Pyramid**	
17.	Angle X is $\frac{1}{2}$ the size of angle Y. Calculate the value of angle X. Answer X = _____ degrees.	$Y = 2X$ $\therefore 3X = 90^0$ $X^0 = 90^0 \div 3$ $X^0 = 30^0$	
18.	Which line is parallel to AB? Answer _____	**GH**	

19.	The table shows the shoe size of a Standard Four Class.	**Size 5**	

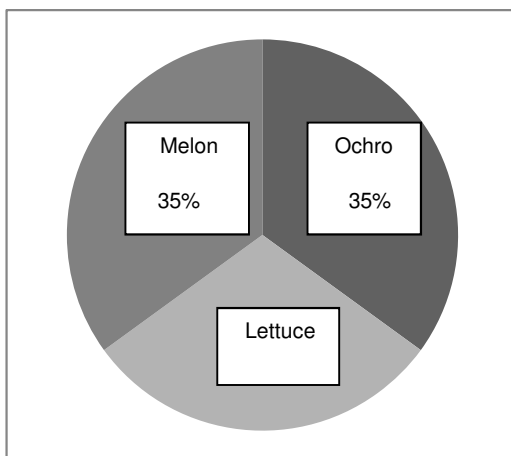| Shoe Size	4	5	6	7
Number of Children	13	20	15	5

What was the modal shoe size?

Answer _____

---

20. The pie chart shows a plot of land owned by Mr. Joe. What percentage of his land is used for planting Lettuce?

Lettuce = 100% - (35% + 35%)
= 100% - 70%
= **30%**

Answer _____

SECTION 2

Each question is worth either 2 or 3 marks. Answer ALL questions. Show ALL working in the Working Column.

No.	Items	Working Column	Marks
21.	Two of the five boxes are equally filled with crayons. If there are 36 crayons in two boxes, how many crayons can fill all the boxes? Answer _____ (2)	$36 \div 2 = 18$ crayons/box 5 boxes = 18 x **= 90 crayons**	
22.	There are 126 children registered for a camp. What is the least number of rooms needed to house the children if each room can hold 8 children? Answer _____ (2)	$126 \div 8$ $= 15 + 1$ **= 16 rooms**	
23.	Randy walked 1560 metres and cycled 2340 metres. What is the total distance Randy covered in **kilometres**? Answer _____km (2)	1560m = 1.560km 2340m = 2.340km 1.56 + 2.34 **= 3.90km**	

24.	At a party each child was given $\frac{1}{8}$ of a pizza. Ian bought 9 pizzas. When the children were finished eating there were $1\frac{3}{4}$ pizzas left? How many children were at the party? Answer _____ (2)	$1\frac{3}{4} = \frac{7}{4}$ $\frac{7}{4} = \frac{}{8}$ $\square = 14$ 9 pizzas = 9 x 8 = 72 Left = 14 Children at party = 72 -14 **= 58**	
25.	One fifth of the sum of two numbers is 40. One of the numbers is 90. What is the other number? Answer _____ (3)	$\frac{1}{5}$ x (90 + $\square$) = 40 90 + $\square$ = 40 x 5 90 + $\square$ = 200 $\square$ = 200 – 90 $\square$ = **110**	

26.	The table below shows a part of Debra's Report.
	Term Test Records
	
	(table below)
	
	  (a) What percentage did Debra make in Language Arts?
	
	Answer _____ (1)
	
	  (b) In which subject did she score the highest percentage?
	
	Answer _____ (2)
		(a) Language Arts = $\frac{40}{50}$ x $\frac{100}{1}$
		
		= **80%**
		
		(b) $\frac{45}{60}$ x $\frac{100}{1}$ = 75%
		
		$\frac{35}{40}$ x $\frac{100}{1}$ = 87.5%
		
		∴ Highest percentage scored in **ELA**	

Table for Q26:

Subject	Maximum Marks	Marks Earned	%
Mathematics	60	45	
Language Arts	50	40	
ELA	40	35	

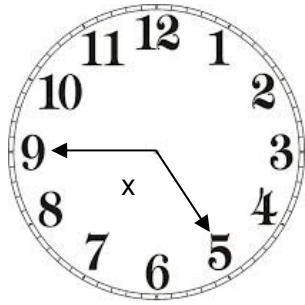|		
27.	Four digits are shown below. 5 9 8 7 Using EACH digit only ONCE, write the: (a) SMALLEST four-digit number Answer _____ (1) (b) LARGEST four-digit Even number. Answer _____ (2)	(a) **5789** (b) **9758**	
28.	The difference of two numbers is $10\frac{5}{12}$. One of the numbers is 16. What is the other number? Answer _____ (2)	$16 - 10\frac{5}{12}$ $= 5\frac{7}{12}$	

29.	PEN - \$1.25 PENCIL - 75¢
	
	How much change should I receive from \$40.00 after buying a dozen pens and 8 pencils?
	
	Answer _____ (2)
		12 pens = \$1.25 x 12
		          = \$15
		8 pencils = \$0.75 x8
		          = \$6
		Total =\$15 + \$6
		          = \$21
		Change = \$40 - \$21
		          = **\$19**	

30.	An aquarium measures 4m by 3m by 2m.
	What is the volume of the aquarium?
	
	Answer _____ (2)
		Volume of aquarium= L x W x H
		          = 4 x 3 x 2
		          = **24m³**	

31.	Apples are sold at 2 for $3.00.
	Oranges are sold at 3 for $2.00
	Kerry-Ann bought 4 apples and paid with a $10.00 bill.
	
	How many oranges can she buy with the remainder of the money?
	
	Answer _____ (2)
		2 apples = $3
		1 apple = $\frac{3}{2}$
		4apples = $\frac{3}{2}$ x $\frac{4}{1}$
		       = $6
		Paid = $10 – $6
		Change = $4
		
		$2 = 3 oranges
		$1 = $\frac{3}{2}$
		$4 = $\frac{3}{2}$ x $\frac{4}{1}$
		       = **6 oranges**	

32.	The cash price of a stove is $2800.00. The hire purchase plan consists of a down payment of $450.00 plus $250.00 per month for 16 months. (a) Calculate the cost of the stove using the hire purchase plan. Answer _____ (2) (b) How much will someone save if the stove was bought at the cash price? Answer _____(1)	(a) Hire Purchase plan = (16 x $250) + $450 = $4000 +$450 =**$4450** (b) Save = $4450 - $2800 = **$1650**	

33.	The sign on Johnny's Mini Mart reads:	(a) 8:00 – 7:25 = **35 minutes**	
	Opening Hours: 8:00 am – 5:00pm	(b) 8:00 + 0:45 = **8:45am**	
	Thomas arrived at the Mini Mart at 7:25 am and waited until it was open.		
	(a) How long did Thomas wait for the Mini Mart to open?		
	Answer _____ (1)		
	He spent 45 minutes getting groceries for his family.		
	(b) Calculate the time he left the Mini Mart.		
	Answer _____ (2)		

34.	The perimeter of a rectangle is 96cm. If the width is 18cm.
	
	Calculate:
	
	(a) The length of the rectangle.
	
	Answer _____ (1)
	
	(b) The area of the rectangle.
	
	Answer _____ (1)
		(a) Length =(Perimeter – 2W) ÷ 2
		       = (96 – [18 x 2]) ÷ 2
		       = (96 – 36) ÷ 2
		       = 60 ÷ 2
		       = 30cm
		
		(b) Area of rectangle = L x W
		                     = 30 x 18
		                     = 540cm^2	

35.	A table measuring 140 cm by 75 cm is covered with a table cloth. (a) Calculate the area of the table. Answer _____ (1) (b) If the cloth measured 200cm by 125cm, calculate how much cloth will hang at the sides of the table? Answer _____ (2)	(a) Area of table = L x W $\qquad$ = 140 x 75 $\qquad$ **= 10500cm²** (b) Area of cloth = L x W $\qquad$ = 200 x 125 $\qquad$ = 25000 Extra cloth = 25000 – 10500 $\qquad$ **= 14500cm²**	
36.	Match the shape to its properties using arrows. 	Triangular based pyramid	4 faces , 4 vertices, 6 edges.
Triangular prism	5 faces, 6 vertices, 9 edges. | (2)	Triangular based pyramid **= 4 faces, 4 vertices, 6 edges** Triangular prism **= 5 faces, 6 vertices, 9 edges.**	

37.

The minute hand of the clock moved from 5 to 9 as shown.

    (a) Circle the term listed below that BEST describes angle x.

- Right angle   * Acute Angle
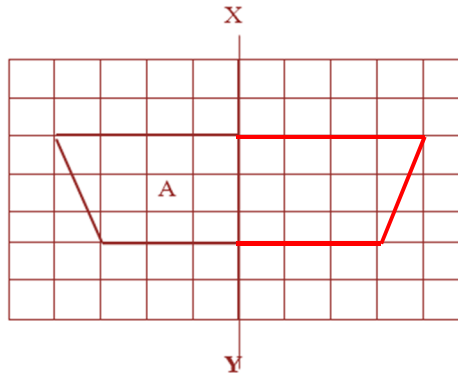- Obtuse Angle   * Reflex Angle

Answer _____(1)

    (b) What fraction of a full turn did the minute hand make?

Answer _____ (1)

(a) Minute hand moved =4 spaces
    1 space = 30^0
    4 spaces = 30^0 x 4
           = 120^0 – **Obtuse Angle**

(b) Fraction = $\frac{120}{360}$

          = $\frac{1}{3}$
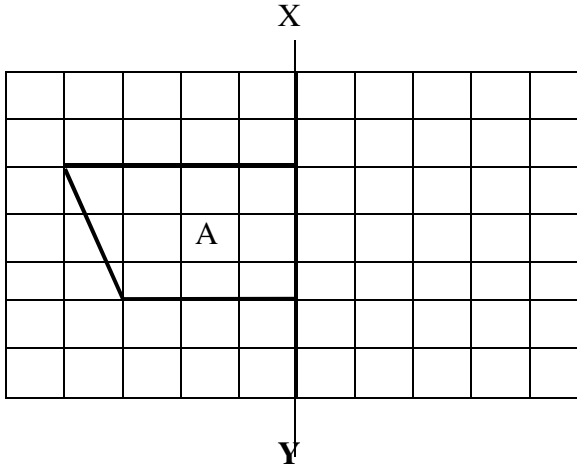
38.	(a) Flip figure A along the mirror line XY. (1) (b) Name the combined shape. Answer _____ (1)	(b) **Trapezium**	
39.	Three triangles were joined together as shown. **25º** **X** Calculate the difference between angle X and Y. Answer _____(2)	Angle X = $(180^0 - 90^0) \div 2$ $= 90^0 \div 2$ $= 45^0$ Angle Y = 25^0 Difference = $45^0 - 25^0$ = **20^0**	
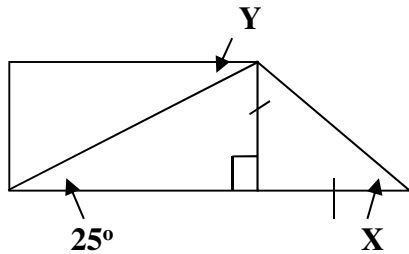
40. $\frac{1}{3}$ of Carol's allowance is $20.00.

Complete the bar chart to show the remainder of her allowance that Carol spent on Wednesday.

$\frac{1}{3} = \$20$

$1 = \$20 \times 3$

  $= \$60$

Remainder $= \$60 - (\$30 + \$10)$

  $= \$60 - \$40$

  $= \$20$
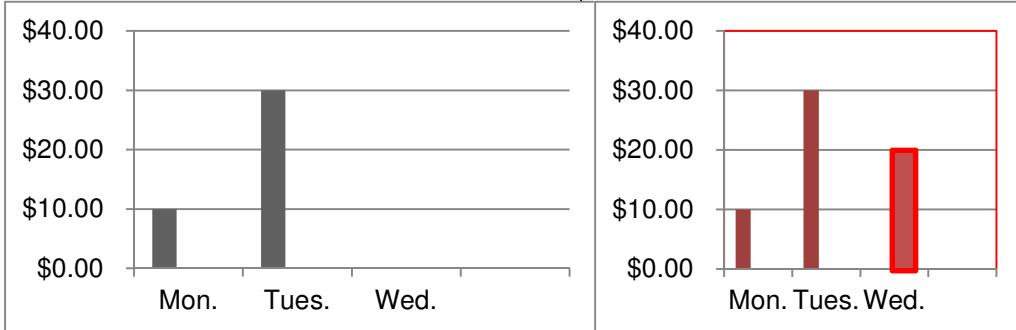
Answer _____ (3)

SECTION 3

Each question is worth 5 marks. Answer ALL questions. Show ALL working in the Working Column.

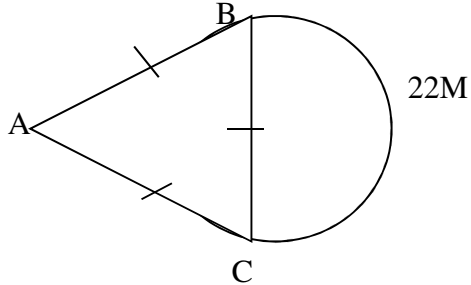| No.	Items	Working Column	Marks
41.	325 people are going on a Bird Watching Trip. They can pay for either 25-seater boats or 12-seater boats. (a) What is the maximum number of 25-seater boats they should pay for if all the people chose 25-seater boats? Answer _____ (1) (b) They decided to use both 25-seater and 12- seater boats. If they paid for 12 of the 12 seater boats,how many 25-seater boats would they need? Answer _____(2) (c) A 25-seater boat costs \$750.00. A 12-seater boat costs \$300.00. Calculate the cost for ALL the boats paid for in part (b). Answer _____(2)	(a) $325 \div 25$ $\qquad = \mathbf{13}$ – 25-seater boats (b) $12 - 12\text{seaters} = 12 \times 12$ $\qquad\qquad\qquad = 144$ $\quad$ Remainder $= 325 - 144$ $\qquad\qquad\qquad = 181$ $\quad$ Number of 25 seaters needed $\quad = 181 \div 25$ $\quad = 7$ rem. 6 $\quad \therefore \mathbf{8 - 25\ seaters\ would\ be}$ $\quad \mathbf{needed}$ (c) $12 - 12$ seaters $= 12 \times \$300$ $\qquad\qquad\qquad = \$3600$ $\quad 8 - 25$ seaters $= 8 \times \$750$ $\qquad\qquad\qquad = \$6000$ $\quad$ Total $= \$6000 + \$3600$ $\qquad\quad = \mathbf{\$\ 9600}$	

306

42.	A Primary School has 15 classes. Each class has 25 students. (a) Calculate the students' population at the school. Answer _____(1) (b) After writing the S.E.A. examination, 47 children left the school. The Principal took in two First Year classes. How many children were in each First Year class if the TOTAL student population was now 370 students? Answer _____(3) (c) How many classes are there now if the number in each class does NOT exceed 25 students? Answer _____ (1)	(a) Population $= 25 \times 15$ $\qquad\qquad\quad$ **$= 375$ students** (b) Total $= 375$ $\quad$ Left $= 47$ $\quad$ Remained $= 375 - 47$ $\qquad\qquad = 328$ $\quad$ New Population $= 370$ $\quad$ First Year $\quad = 370 - 328$ $\qquad\qquad\qquad = 42$ students $\quad$ One class $\quad = 42 \div 2$ $\qquad\qquad\qquad$ **$= 21$ students** (c) Number of classes $= 370 \div 25$ $\qquad\qquad\qquad\quad = 14$ rem. 20 $\qquad\qquad\qquad\quad$ **$= 15$ classes**	

43.	A semi-circle and an equilateral triangle are joined as shown. B 22M A C Using the information given in the diagram, calculate: (a) The diameter of the semi-circle BC. Answer _____ (3) (b) The perimeter of the shape. Answer _____ (2)	(a) Diameter = Circumference ÷ π $= (22 \times 2) \div \frac{22}{7}$ $= \frac{44}{1} \times \frac{7}{22}$ $= \mathbf{14m}$ (b) Perimeter = 14 + 14 + 22 $= \mathbf{50m}$	

44. The table shows the wage a construction worker receives:

| Regular Time | $160.00 per hour for first 40 hrs per week. |
| Over Time | 1 ½ times Regular Time Wage. |

Sam works 52 hours for a particular week.

(a) Calculate his overtime pay.

Answer _____ (2)

(b) Calculate his total earnings for the week.

Answer _____(1)

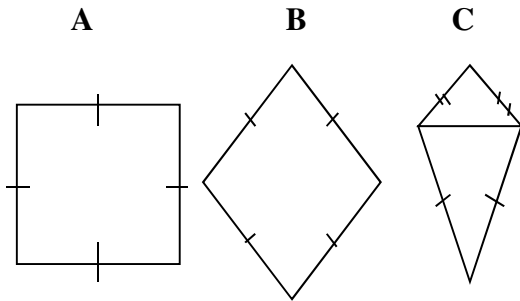(c) If he earns $8800.00 for the next week, how many hours overtime did he work?

Answer _____(2)

(a) Overtime hours = 52 – 40
$$= 12 \text{ hours}$$
1 hour overtime = $160 x 1.5
$$= \$ 240$$
12 hours overtime = $240 x 12
$$= \mathbf{\$2880}$$

(b) Total Earnings
Regular hours = $160 x 40
$$= \$6400$$
Overtime hours = $2880
$$=\$6400 +\$2880$$
$$= \mathbf{\$9280}$$

(c) Earned = $8800
Overtime = $8800 - $6400
$$= \$ 2400 \div \$240$$
$$= \mathbf{10 \text{ hours overtime}}$$

45.

| A | B | C |

(a) Name the shapes above:

A _____

B _____

C _____ (3)

(b) Which shape has one line of symmetry?

Answer _____ (1)

(c) Which of the above shapes has 4 lines of symmetry?

Answer _____ (1)

(a) A – **Square**
    B – **Rhombus**
    C- **Kite**

(b) C – **Kite**

(c) A - **Square**

46.	After 4 innings, Brian's mean score in cricket was 52.
	
	   (a) What was his total score in the four innings?
	
	Answer _____ (1)
	
	   (b) In a fifth inning, Brian scored 67 runs. What was his new mean score?
	
	Answer _____ (2)
	
	   (c) Brian wants to improve his mean score to 60. What should he score in his sixth innings?
	
	Answer _____ (2)
		(a) Total = Mean x N(n)
		        = 52 x 4
		        = **208 runs**
		
		(b) New Mean = (208 + 67) ÷ 5
		            = 275 ÷ 5
		            = **55 runs**
		
		(c) Total should be = 60 x 6
		                  = 360
		   New score = 360 – 275
		                  = **85 runs**	

	END OF TEST 16		