TEST

21

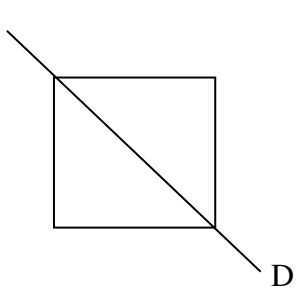
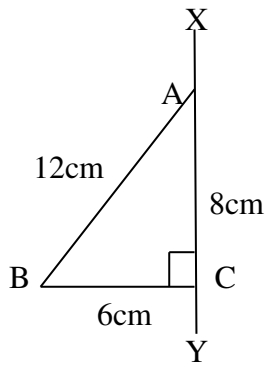
MATHEMATICS TEST 21 TIME- 75 MINUTES

SECTION 1

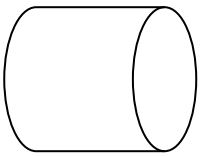
Each question is worth 1 mark. Answer ALL questions. Show ALL working in the Working Column.

No.	Items	Working Column	Marks
1.	Write the largest number value which can be written with five digits. Answer _____	**99 999**	
2.	Write 375 029 in words. Answer _____	**Three hundred and seventy-five thousand and twenty-nine**	
3.	Lisa had 50 plums, she gave away $\frac{2}{5}$ of the plums to Shania. How many plums did she keep for herself? Answer _____	Gave = $\frac{2}{5}$ Kept = $\frac{3}{5}$ Kept = $\frac{3}{5}$ x $\frac{50}{1}$ **= 30 plums**	
4.	A scout leader had 9 metres of rope for his cub scouts. He divided it equally for 18 scouts. What length of rope in **centimetres** did each cub scout receive? Answer_____	9 ÷ 18 = 0.5m 0.5 x 100 = **50cm**	

5.	Jason had $20.50. Karen had $8.50 more than Jason. How much money do they have altogether? Answer _____	J + K = $20.50 + ($20.50+$8.50) = $ 20.50 + $29.00 = **$49.50**	
6.	The length of one side of a square is 24cm.What is the perimeter of the square? Answer _____	Side = 24cm Perimeter of square = S x 4 = 24 x 4 = **96cm**	
7.	Write in descending order : 0.07, 0.70, 0.17, 0.71. Answer _____	**0.71, 0.70, 0.17, 0.07**	
8.	How many hundredths is there in 3.4? Answer _____	3.4 x 100 = **340cm**	

9.	C  D The line CD divides the square into two triangles. If the area of each triangle is $8cm^2$, what is the length of a side of the square? Answer _____	Area of each △ = $8cm^2$ Area of 2 △ = $16cm^2$ Area of square = $16cm^2$ Side of square = $\sqrt{16cm^2}$ = **4cm**	
10.	0.8kg of sweets cost $6.40. What is the cost of 100g of sweets? Answer _____	0.8 = $6.40 $\frac{8}{10}$ =$6.40 1 = $6.40 x $\frac{5}{4}$ = $8 x 0.1 = **$ 0.80**	
11.	 When triangle ABC is reflected about the line XY, what type of triangle will be formed with the object and the image? Answer_____	**Equilateral Triangle**	

12.	11: 20 Digital Time  Show the digital time on the analog clock face by drawing the hour and minute hands.		
13.	Questions 13 and 14 are based on the information below. A farmer plants the following seeds in his garden. SEED TYPE / NO.OF SEEDS Pumpkin 50 Tomato 45 Pepper 37 Total 132 Which seed represents the mode in the above table? Answer _____	**Pumpkin (most seeds)**	
14.	What is the mean number of seeds planted in the garden? Answer _____	Mean = $\frac{132}{3}$ = **44**	

15.	Kelly had 25 mangoes and 15 apples in a basket. What PERCENT of the fruits is apples? Answer _____	Total Fruits = 25 + 15 = 50 $\frac{15}{50} \times \frac{100}{1}$ = **30%**	
16.	 Rudy Randy Rudy has 3.75 kg of fish on his arm of the scale. Randy has 5.5 kg on his arm of the scale. How many more kilograms of fish is needed to make Rudy's arm equal to Randy's ? Answer _____	5.50 kg - 3.75kg **1.75kg**	
17.	 Name the solid shape shown above. Answer _____	**Cylinder**	
18.	Shawn entered primary school on his fifth birthday in the year 2008. What year was he born? Answer _____	2008 -5 = **2003**	

<table>
<tr>
<td>19.</td>
<td>Micheal measured the weight of his dog. Which unit is the most appropriate unit to measure the dog’s weight?

Answer _____</td>
<td>kilograms</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>How many Smiley Faces are needed to complete the table below to show the favourite doll?

<table>
<tr><td>Type of Doll</td><td>Pupils</td><td>Total</td></tr>
<tr><td>Barbie</td><td>  </td><td>60</td></tr>
</table>

  = 12 pupils

Answer _____</td>
<td>60 ÷  = 5</td>
<td></td>
</tr>
</table>

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.	What is the quotient when $4\frac{2}{3}$ is divided by 8? Answer _____ (2)	$4\frac{2}{3} \div 8$ $= \frac{14}{3} \div \frac{8}{1}$ $= \frac{14}{3} \times \frac{1}{8}$ $= \mathbf{\frac{7}{12}}$	
22.	In a Standard Five class there are 18 boys and 12 girls. Write the number of girls in the class as a PERCENT. Answer _____ (2)	Total = 30 Girls = $\frac{12}{30} \times \frac{100}{1}$ $= \mathbf{40\%}$	
23.	The sum of 19.35, 4.03 and $\square$ equals 30.47. Calculate the value of $\square$. Answer _____ (2)	$\square$ = 30.47 – (19.35 + 4.03) $\square$ = 30.47 – 23.38 $\square$ = **7.09**	
24.	Complete the sequence below: 0, 1, 1, 2, 3, 5, 8, __, __. Answer _____ (2)	8 + 5 = 13 13 + 8 = 21 **13, 21**	

25.	40% of a number is equal to 25% of 320. What is the number? Answer _____ (3)	25% x 320 = $\frac{1}{4}$ x $\frac{320}{1}$ = **80** 40% = 80 $\frac{2}{5}$ = 80 1 = $\frac{80}{1}$ x $\frac{5}{2}$ = **200**	
26.	Sally had 120 pineapples. She sold $\frac{1}{5}$ of the pineapples on Monday and bought $\frac{1}{4}$ of the original number of pineapples on Tuesday. How many pineapples does she have now? Answer _____ (3)	Sold = $\frac{1}{5}$ x $\frac{120}{1}$ = 24 Bought = $\frac{1}{4}$ x $\frac{120}{1}$ = 30 Sally now has = (120 – 24) + 30 = 96 +30 = **126**	
27.	$\frac{3}{7}$ of Ariana's farm animals are chickens and the rest are ducks. If there are 540 chickens , how many ducks does Ariana have on the farm? Answer _____ (3)	$\frac{3}{7}$ = 540 1 = $\frac{540}{1}$ x $\frac{7}{3}$ = 1260 animals Ducks = $\frac{4}{7}$ x $\frac{1260}{1}$ = **720 ducks**	

28. Complete the table below:

Fraction	Decimal	Percent
$\frac{1}{3}$	$0.33^{\cdot}$	_____
_____	0.4	40%
$\frac{3}{8}$	_____	$37\frac{1}{2}$ %

(3)

Fraction	Decimal	Percent
$\frac{1}{3}$	$0.33^{\cdot}$	$\mathbf{33\frac{1}{3}\%}$
$\mathbf{\frac{2}{5}}$	0.4	40%
$\frac{3}{8}$	**0.375**	$37\frac{1}{2}$ %

29. Pamela bought a stereo set for $3000.00. She sold it and made a **profit** of 15%. What is the selling price of the stereo set?

Answer _____ (2)

S.P = 100% + 15%
= 115%
S.P = $\frac{115}{100}$ x $\frac{3000}{1}$

= **$3450**

30. Tammy bought 5 apples and 8 pears at a vegetable stall. Each pear costs $3.50. Her total bill was $40.50.

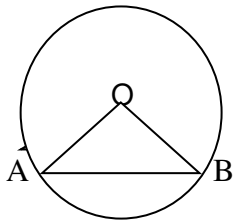
What was the cost of an apple?

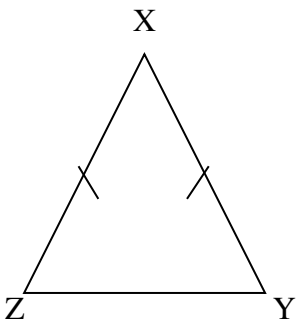
Answer _____ (3)

8 pears = 8 x $3.50
= $28

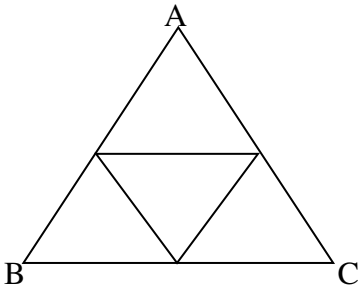
Total = $40.50 - $28.00
Apples = $12.50
5 apples = $12.50
1 apple = $12.50 ÷ 5
= **$2.50**

31.	What is the Simple Interest on $25 000 for 5 years at 15% per month? Answer _____ (2)	Simple Interest = $\frac{P \times R \times T}{100}$ $= \frac{25\,000 \times 15 \times 5}{100}$ = **$18 750**	
32.	The length of a rectangle is 26 cm and the area is 468 cm^2. What is the width of the rectangle? Answer _____ (2)	Width = $\frac{\text{Area}}{\text{Length}}$ $= \frac{468cm^2}{26\ cm}$ = **18cm**	
33.	Water flows out from a tank at a rate of 1200 liters every 4 hours. At the same rate, how many litres can be emptied in exactly 6 hours.? Answer _____ (2)	4 hours = 1200L 1hour = $\frac{1200}{4}$ 6 hours = $\frac{1200}{4} \times \frac{6}{1}$ = **1800 L**	

34.	The sum of two numbers is 36 and their difference is 4. (a) What are the two numbers? Answer _____ (2) (b) What is the product of the two numbers? Answer _____ (1)	(a) X + Y = 36 X – Y = 4 Number Bonds for 36 20 + 16 = 36 20 – 16 = 4 ∴ the two numbers are **20 & 16** (b) 20 x 16 = **320**	
35.	 O is the centre of the circle. Angle AOB is equal to 120°. (a) Calculate the value of angle OAB. Answer _____ degrees. (1) (b) The length of the minor arc AB is 10cm. What is the circumference of the circle? Answer _____ (2)	(a) Triangle OAB is isosceles ∴ OAB $= \frac{(180^0 - 120^0)}{2}$ $= \frac{60^0}{2}$ $= \mathbf{30^0}$ (b) Minor Arc AB = $\frac{120}{360}$ $= \frac{1}{3}$ **Circumference** $\frac{1}{3}$ = 10cm 1 = 10cm x 3 = **30cm**	

36.	Sheldon's monthly salary is $8500.00. He spent $2500.00 on food, made a mortgage payment of $1500.00 and saved $1800.00 every month. (a) How much money will Sheldon be left with for the rest of the month? Answer _____ (2) (b) If he uses $750.00 for car maintenance, what would be his total **expenses**? Answer _____ (1)	(a) Salary = $8500 Left with = $8500 – ($2500+$1500+$1800) = $8500 - $5800 = **$2700** (b) Total Expenses = $2500 + $1500 + $750 = **$4750** ***Savings should not be counted as an expense***	
37.	Angle XYZ is 55°. Calculate the size of the angle ZXY.  Answer _____ (2)	ZXY = 180^0 - (55^0 + 55^0) = 180^0 - 110^0 = **70^0**	

38.



(a) How many triangles are in the above figure?

Answer _____ (1)

(b) Name the solid shape that can be formed from the above figure.

Answer _____ (1)

(c) If triangle ABC is an equilateral triangle and its area is $40cm^2$, what is the area of one of the smaller triangles?

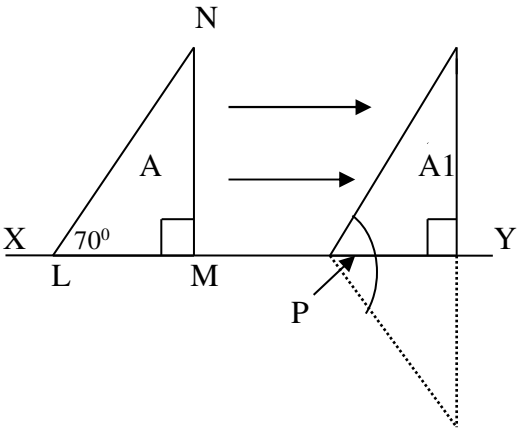
Answer _____ (1)

(a) **5**

(b) **Triangular Based Pyramid**

(c) $40cm^2 \div 4 =$ **$10cm^2$**

39.



(a) Name the type of transformation when triangle (A) is moved to its image (A1).

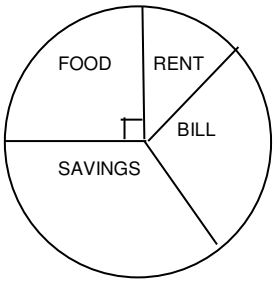
Answer _____ (1)

(b) The image (A1), is flipped along the mirror line XY. Calculate the angle formed at point P in the combined shape.

Answer _____ (2)

(a) Slide/Translation

(b) **70^0**

40.	The Pie Chart shown below represents Jason's monthly budget.  He spends $1250.00 on food. Calculate his monthly budget. Answer _____ (2)	$\frac{1}{4}$ = $1250 1 = $1250 X 4 **= $5000**	

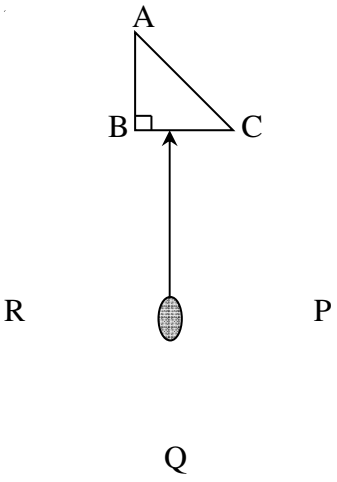
SECTION 3

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

No.	Items	Working Column	Marks
41.	Joel gave 40% of his marbles to Sasha and he sold $66\frac{2}{3}$ % of the remainder to Asif. Joel remained with 75 marbles. (a) Calculate how many marbles Joel had at first. Answer _____ (3) (b) How many marbles was Sasha given? Answer _____ (2)	(a) Gave = 40% Sold = $\frac{2}{3}$ x $\frac{3}{5}$ = $\frac{2}{5}$ Sold + Gave = 40% + 40% = 80% Left with =20% or $\frac{1}{5}$ $\frac{1}{5}$ = 75 1 = 75 x 5 = **375 marbles** (b) Sasha = $\frac{2}{5}$ x $\frac{375}{1}$ = **150 marbles**	
42.	The measurement of Shiva's three bedrooms in his house is as follows: Bedroom one: 12m by 10m Bedroom two: 12m by 10m Bedroom three: 12m by 14m (a) What is the total area of the three bedrooms of Shiva's house? Answer _____ (3) (b) Carpet is sold at $35.00 per square metre. How much money must Shiva spend to carpet the three bedrooms? Answer _____ (2)	(a) Total Area 12 x 10 = 120 12 x 10 = 120 12 x 14 = 168 + **408m^2** (b) 1m^2 = $35 408m^2 = $35 x 408 = **$14 280**	

43.	After selling a book for $196.00, Travis made a profit of 40%. (a) Calculate the cost price of the book. Answer _____ (3) (b) How much money did Travis make on the sale of the book? Answer _____ (2)	(a) 140% = $196 $\frac{140}{100}$ = $196 $\frac{7}{5}$ = $196 1 = $\frac{196}{1}$ x $\frac{5}{7}$ = **$140** (b) Profit = $196 - $140 = **$56**	
44.	The cost of 8 litres of gas is $24.50. (a) What will be the cost of 4 litres of gas? Answer _____ (2) (b) Adam had $98.00 to buy gas. How many litres of gas can he buy? Answer _____ (3)	(a) 8 L = $24.50 4L = $24.50 ÷ 2 = **$12.25** (b) $98 ÷ $12.25 = 8 x 4 = **32L**	

45.

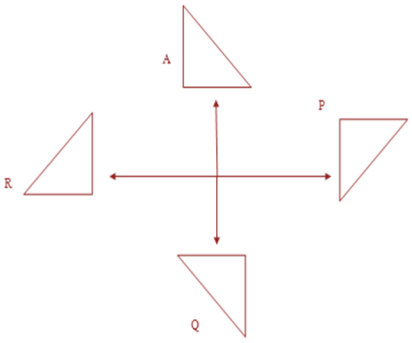


(a) Rotate triangle ABC in a clockwise direction and draw its new positions at P , Q and R respectively.

(3)

(b) How many degrees will triangle ABC turn when it reaches R?

Answer _____ (2)



(b) $3 \times 90^0 = \mathbf{270^0}$

46. The Tally Chart shows the games played by four schools in an inter school competition.

GAMES PLAYED

SCHOOLS	TALLY	TOTAL
A	𝍸 𝍸 𝍸 ||	
B		16
C	𝍸 𝍸 𝍸 ||||	
D	𝍸 𝍸 𝍸 𝍸	20
TOTAL		

(a) Complete the Tally Chart for School's A, B and C. (3)

(b) What is the mean number of games played by each School?

Answer _____ (2)

GAMES PLAYED

SCHOOLS	TALLY	TOTAL
A	𝍸 𝍸 𝍸 ||	**17**
B	𝍸 𝍸 𝍸 |	16
C	𝍸 𝍸 𝍸 |||	**19**
D	𝍸 𝍸 𝍸 𝍸	20
TOTAL		**72**

(b) Mean = $\frac{72}{4}$

= **18 games**

END OF TEST 21