TEST

12

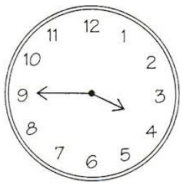
MATHEMATICS TEST 12 TIME- 75 MINUTES

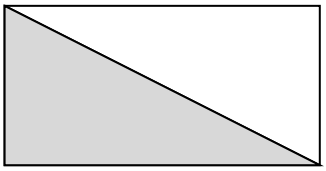
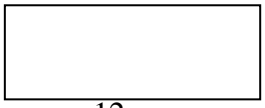
SECTION 1

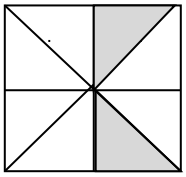
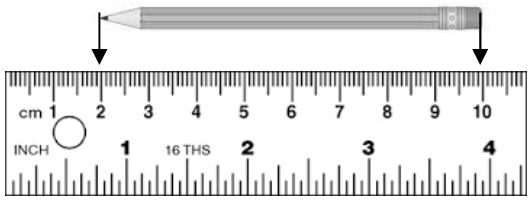
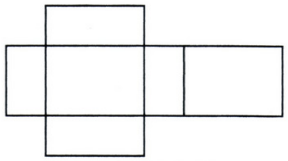
Each question is worth 1 mark. Answer ALL questions. Show ALL working in the Working Column.

No.	Items	Working Column	Mark
1.	Write in figures: Three hundred and eighteen thousand and seventy-two. Answer _____	**318 , 072**	
2.	**0.47, 0.39, 0.141, 0.80** Which of the decimal numbers above has the greatest value? Answer _____	**0.80**	
3.	In a test of forty problems, Ria got 36 correct. What percent did she get correct? Answer _____	$\frac{36}{40} \times \frac{100}{1}$ **= 90%**	
4.	What % of 36 is 18? Answer _____	$\frac{18}{36} \times \frac{100}{1}$ **= 50%**	

5.	$48.16 = (4x10) + (8x1) + (1x \frac{1}{10}) + (6 x \square)$ To complete the statement above, what fraction should be placed in the box? Answer _____	$\frac{1}{100}$	
6.	What is the sum of 4.68, 2.4 and 3.19? Answer _____	4.68 + 2.4 3.19 **10.27**	
7.	Subtract $2\frac{7}{12}$ from $4\frac{5}{6}$. Answer _____	$4\frac{5}{6} - 2\frac{7}{12}$ $= 2\frac{10 - 7}{12}$ $= \mathbf{2\frac{3}{12}}$ $= \mathbf{2\frac{1}{4}}$	
8.	A school library has 1213 books. On Monday, 217 books which had been borrowed were returned and then 187 books were again borrowed. How many books were there in the library at the end of the day? Answer _____	At end of day = (1213 + 217) - 187 = 1430 – 187 = **1243**	
9.	$16^2 = 16 x \square$ To complete the statement above, what number should be put in the box? Answer _____	$16^2 = 16 x$ **16**	

10.	 Write in digital notation, the time shown in the clock above. Answer _____	**3:45**	
11.	Naton is 15cm taller than his sister who is 126cm tall. How tall is Naton? Answer _____	Naton = 126 + 15 **= 141cm**	
12.	 A merchant bought the blouse shown for $95.00 and sold it for $145.00. How much profit did he make? Answer _____	Profit = S.P – C.P = $145 - $ 95 **= $ 50**	

13.	 6cm 10 cm What is the area of the shaded part of the figure above? Answer _____ cm²	Area of triangle $= \frac{B \times H}{2}$ $= \frac{10 \times 6}{2}$ $=$ **30cm²**	
14.	Calculate $33\frac{1}{3}$ % of 240. Answer _____	$33\frac{1}{3}\% = \frac{1}{3}$ $\frac{1}{3} \times \frac{240}{1}$ $=$ **80**	
15.	 8cm 12cm Calculate the perimeter of the shape shown above. Answer _____ cm	Perimeter of rectangle = 2L + 2W = (2 x 12) + (2 x 8) = 24 + 16 = **40cm**	

16.	 What fraction of the shape above is shaded? Answer _____	Shaded $= \frac{2}{8}$ $= \frac{\mathbf{1}}{\mathbf{4}}$	
17.	 What is the length of the pencil above to the nearest whole centimeter? Answer _____ cm	**8cm**	
18.	 The net above is that of a _____	**CUBOID**	

19. The tally chart and frequency table below shows the favourite food of a number of children.

Type of food	Tally	Frequency
Chicken and Chips	𝍸 𝍸 II	12
Burger		7
Pizza	𝍸 I	6

Complete the tally for Burger.

Answer _____

~~1111~~ 11

20. The pictograph shows the number of ice-cream cones sold by four vendors during a particular week.

Vendors	No. of Ice-Cream Sold
A	▽ ▽ ▽▽
B	▽ ▽ ▽ ▽ ▽▽
C	▽ ▽ ▽
D	▽ ▽ ▽▽ ▽

▽ represents 20 ice-creams

How many more ice-creams did Vendor B sell than Vendor C?

Answer _____

▽ = 20

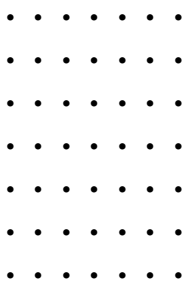
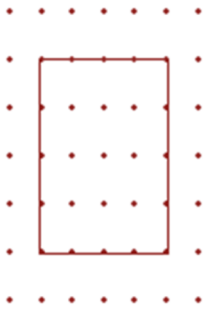
3 ▽ = 20 x 3
= 60 more ice-creams

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	Mark
21.	Calculate the sum of $5\frac{9}{10}$ and $2\frac{1}{2}$ Answer _____ (3)	$5\frac{9}{10} + 2\frac{1}{2}$ $7\ \frac{9\ +\ 5}{10}$ $= 7\frac{14}{10}$ $= \mathbf{8\frac{2}{5}}$	
22.	After two hours, a vendor sold $\frac{2}{5}$ of the oranges he had taken to the market. He remained with 120 oranges. (a) How many oranges did the vendor take to the market? Answer _____ (2) (b) How many oranges did he sell after two hours? Answer _____ (1)	(a) Sold $= \frac{2}{5}$ $\therefore$ Remained $= \frac{3}{5}$ $\frac{3}{5} = 120$ $1 = \frac{120}{1} \times \frac{5}{3}$ **= 200 oranges** (b) $\frac{2}{5} \times \frac{200}{1}$ **= 80 oranges**	
23.	A bus had 45 passengers. When it stopped at the bus-stop 15 passengers came off and 12 entered the bus. How many passengers were there on the bus when it departed the bus stop? Answer _____ (2)	Passengers = (45 – 15) + 12 **= 42 passengers**	

24.	How many heaps of guavas can a vendor make if he has 162 guavas and he places them in heaps of 9? Answer _____ heaps (2)	162 ÷ 9 = **18 heaps**	
25.	0.47, 0.59, 0.53, 0.36 (a) Arrange the decimal numbers above in order of size, starting with the smallest. Answer _____ (1) (b) Which of the two numbers has a sum of 1? Answer _____ (2)	(a) **0.36, 0.47, 0.53, 0.59** (b) **0.47 + 0.53 = 1**	
26.	In a triathlon race, Karl ran 2km 500m, cycled 4km 200m and swam 700 metres. What is the total distance he covered? Answer _____ (2)	M = 500 + 200 + 700 = 1400m = 1km 400m KM = 2 + 4 + 1 = 7km Total Distance = **7km 400m**	

27.	In a class, $\frac{3}{5}$ of the students are boys. If there are 14 girls, (a) How many students are there in the class? Answer _____ students (2) (b) How many boys are in the class? Answer _____ boys (1)	(a) If $\frac{3}{5}$ are boys, then $\frac{2}{5}$ are girls. $\frac{2}{5} = 14$ $1 = \frac{14}{1} \times \frac{5}{2}$ **= 35 students** (b) Boys $= \frac{3}{5} \times \frac{35}{1}$ **= 21 boys**	
28.	A cricket match started at 10:30 am and ended 3 hours 15 minutes later. At what time did the game finish? Answer _____ (2)	10 : 30 + 3 : 15 13 : 45 - 12 : 00 **1 : 45 pm**	
29.	 The dots above are drawn 1cm apart. Connect the dots to create a rectangle with an area of **20cm².** (2)		

30.	Larry got up at 6:20 am. He took 35 minutes to get dressed for school and 10 minutes to have breakfast. By 7:20 am, Larry was at school. How long did it take for Larry to get to school? Answer _____ (3)	6: 20 + :35 = 6:55 6:55 + :10 = 7:05 School = 7:20 Length of time = 7:20 – 7:05 **= 15 minutes**	
31.	m cm 4 85 + 3 42 _____ (2)	m cm 4 85 + 3 42 **8 27**	
32.	32cm 8cm Rectangle Square The rectangle and the square above have the same area. (a) What is the area of the rectangle? Answer _____cm² (1) (b) What is the length of one side of the square? Answer _____cm (2)	(a) Area of rect. = L x W = 32 x 8 **= 256cm²** (b) Area of square = 256cm² Side of square = √256 **= 16 cm**	

33.	Ryan has 16 green marbles, 28 red marbles and 36 blue marbles. What percent of Ryan's marbles is green? Answer _____ (2)	Total marbles = 16 + 28 + 36 = 80 Percentage green = $\frac{16}{80}$ x $\frac{100}{1}$ = **20%**	
34.	127cm 96cm What is the total length of the two pieces of string above in metres? Answer _____m (2)	Total length (cm) = 127 + 96 = 223cm CM → M = 223 ÷ 100 = **2.23m**	
35.	At 8:45 a.m, a teacher started distributing Maths papers. It took her 8 minutes to do so. The Maths paper was 75 minutes long. At what time did the test end? Answer _____ (2)	8:45 + :08 8:53 + 1:15 9:68 – + 1:60 **10:08 am**	
36.	5 kg of sweets cost $8.10. What is the cost of 15 kg of the sweets? Answer _____ (3)	5kg = $8.10 1kg = $8.10 ÷5 15kg = ($8.10 ÷ 5) x 15 = $ 1.62 x 15 = **$24.30**	

37.	**36, ____ , 16 , 9 , 4 , _____** The numbers above form a pattern. What are the two missing numbers? Answer _____ (2)	**25, 1**	
38.	(a) Divide $4\frac{2}{5}$ by $\frac{11}{9}$ Answer _____ (2) (b) Add $\frac{2}{5}$ to the answer in part (a) Answer _____ (1)	(a) $4\frac{2}{5} \div \frac{11}{9}$ $= \frac{22}{5} \div \frac{11}{9}$ $= \frac{22}{5} \times \frac{9}{11}$ $= \mathbf{3\frac{3}{5}}$ (b) $3\frac{3}{5} + \frac{2}{5}$ $= \mathbf{4}$	
39.	Every sixth customer at a supermarket is given a discount. (a) How many customers received discounts if 77 customers entered the supermarket? Answer _____ (1) (b) How many more customers must enter the store for another discount to be given? Answer _____ (2)	(a) 77 ÷ 6 = **12 customers received discounts** (b) 77 – 72 = 5 6 – 5 = 1 **1 more customer needed for the discount to be given**	

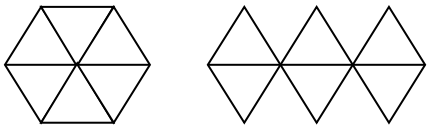
40.	Mother shared $300.00 between Tom and Ken giving Tom $60.00 less than Ken. (a) How much money did each child get? Answer _____ (1) (b) Ken then spent 20% of his money on a book. How much money is he left with? Answer _____ (2)	(a) $300 - $60 = $240 $240 ÷ 2 = $120 Ken = $120 + $60 = $ 180 Tom =$120 **Ken = $180 Tom = $ 120** (b) 20% x $180 $= \frac{1}{5} \times \frac{180}{1}$ = $36 Left with = $180 - $36 = **$144**	

SECTION 3

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

41.	A farmer has 360 animals on his farm. 30% of these animals are sheep and $\frac{3}{4}$ of the remainder are chickens. The rest of the animals are goats. (a) How many sheep does the farmer have on his farm? Answer _____sheep (1) (b) How many chickens does he have? Answer _____ chickens (2) (c) How many of his animals are goats? Answer _____goats (2)	(a) 30% x 360 = 360 x 0.3 = **108 sheep** (b) Remainder = 360 – 108 = 252 Chickens = $\frac{3}{4}$ x $\frac{252}{1}$ = **189 chickens** (c) Goats = 360 – (108 + 189) = 360 – 297 = **63 goats**	

42.	At a circus, 40% of the people who attended were women, 25% were men and there were 210 children. (a) What percent of the audience were children? Answer _____ (1) (b) How many persons attended the circus in ALL? Answer _____ (2) (c) How many more women than men were there at the circus? Answer _____ (2)	(a) Total = 100% Women + Men = 40% + 25% = 65% Children = 100% - 65% **= 35%** (b) 35% = 210 $\frac{7}{20}$ = 210 1 = $\frac{210}{1}$ x $\frac{20}{7}$ **= 600 persons attended circus** (c) Women - Men = 40% - 25% = 15% $\frac{15}{100}$ x $\frac{600}{1}$ **= 90 more women**	

43.	Ronald and Ravi each used 6 equilateral triangular tiles to make two patterns as shown below. Each tile has a side 4 cm.  RONALD RAVI (a) What is the name given to the shape formed by Ronald? Answer _____ (1) (b) What is the perimeter of Ravi's shape? Answer _____cm (2) (c) By how much is the perimeter of Ravi's shape GREATER than Ronald's? Answer _____ (2)	(a) **Hexagon** (b) Ravi = 12 x 4 **= 48cm** (c) Ronald = 6 x 4 = 24cm Difference = 48 – 24 = **24cm**	

44. Gary and Sheldon are involved in a dart throwing competition. Points are awarded based on the colours struck, as shown below.

Red	----	20 points
Green	----	15 points
Yellow	----	10 points
Black	----	5 points

Each player was given ten throws and the table below shows Gary's throws:

Colours	Times Struck
Red	**2**
Green	**1**
Yellow	**3**
Black	**4**

(a) How many points did Gary get?

Answer _____ points (2)

(b) After ten throws, Sheldon had the same number of points as Gary. On the table below, complete Sheldon's scorecard.

Colour	**Times Struck**	**Points**
Red	**1**	**20**
Green	**3**	
Yellow		**20**
Black	**4**	

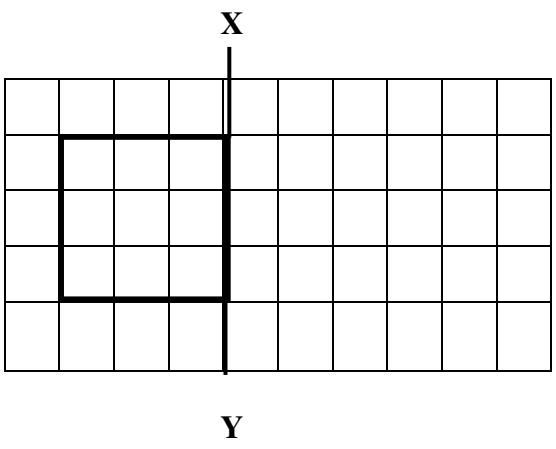
(3)

(a) Gary

(2 x 20) + (1 x 15) + (3 x 10) + (4 x5)
= 40 + 15 + 30 + 20
= **105 points**

(b) Green = 3 x 15
= **45 points**
Yellow - 20 ÷ 10
= **2 times**
Black = 4 x 5
= **20 points**

45. On the grid below is a square.



The square is flipped along the line XY

(a) On the grid, draw the flip of the shape. (2)

(b) What is the name of the combined shape?

Answer _____ (1)

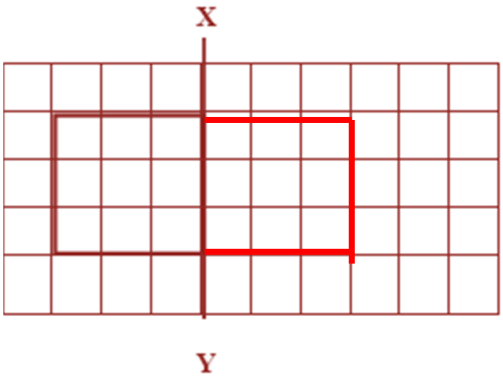
(c) The line XY can be called

Answer _____ (1)

(d) How many pairs of parallel sides does the combined shape have?

Answer _____ (1)

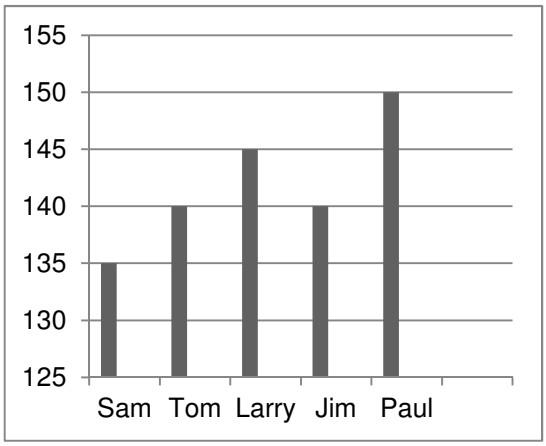
(a)



(b) **RECTANGLE**

(c) **Mirror Line**

(d) **2 pairs of parallel sides**

46.	The graph below shows the heights of five red bean plants in a class.  (a) What is the height of Larry's red bean plant? Answer _____mm (1) (b) Which two children have plants of the same heights? Answer _____ (1) (c) What is the difference between the height of the tallest plant and the height of the shortest plant? Answer _____mm (1) (d) What is the mean height of the children's red bean plants? Answer _____ mm (2)	(a) **145 mm** (b) **Jim and Tom** (c) 150 – 135 = **25mm** (d) **Total =** 135 + 140 + 145 + 140 + 150 **Mean =** $\frac{\mathbf{710}}{\mathbf{5}}$ **= 142mm**	
	End of Test 12		