TEST
19

MATHEMATICS TEST 19   TIME- 75 MINUTES
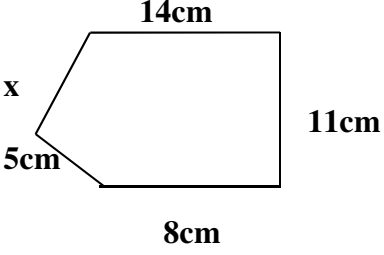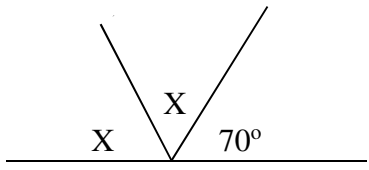
SECTION 1

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

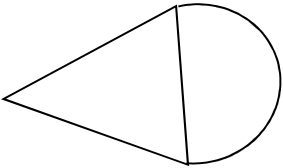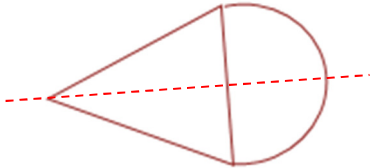| No.	Items	Working Column	Marks
1.	Write 25 041 in words. Answer _____	**Twenty-five thousand and forty one.**	
2.	$\begin{array}{r} 4\,0\,0\,9 \\ -\,2\,5\,0\,6 \\ \hline \\ \hline \end{array}$ Answer _____	**1503**	
3.	Estimate 9.42 to the nearest TENTH. Answer _____	**9.40**	
4.	A cupboard has 6 shelves. How many shelves are there in 18 cupboards? Answer _____	1 cupboard = 6 shelves 18 cupboards = 6 x 18 **= 108 shelves**	
5.	Arrange the fractions below from largest to smallest. $\frac{1}{6}$ $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$ Answer _____, _____, _____, ____	$\frac{1}{6}$ $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{2\quad 6\quad 3\quad 4}{12}$ $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{6}$	
6.	A child's picture book contains 16 pages. $\frac{3}{4}$ of the pages have been read. How many pages have been read? Answer _____	Book = 16pages Read $= \frac{3}{4}$ x $\frac{16}{1}$ **= 12 pages**	

7.	Convert 0.65 to a fraction in its LOWEST terms. Answer _____	$0.65 = \frac{65}{100}$ $= \frac{13}{20}$	
8.	A ribbon is 4.6m long. If 2.9m is cut, what length of ribbon remained? Answer _____	4.6 – 2.9 **1.7 m**	
9.	How many 5¢ coins equal $7.25? Answer _____	$1 = 20 $7.25 = 20 x $7.25 = **145**—5c coins	
10.	A discount of $75.00 is given off a jacket worth $320.00. How much does the jacket cost after the discount? Answer _____		

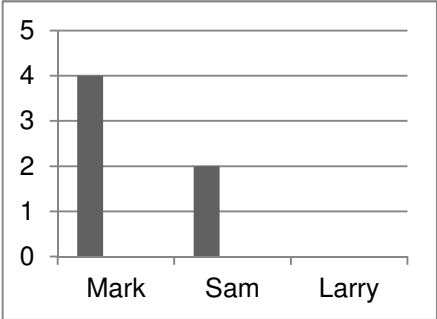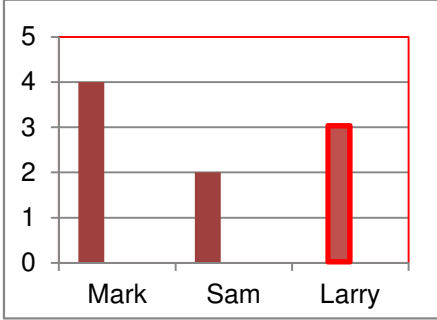|			
11.	Mr. Brown left home at quarter to six. Draw in the hands on the clock to show the time he left home.		
12.	VAT of 15% is charged on a bicycle priced at $360.00. How much is the VAT? Answer _____	$\text{VAT} = \frac{15}{100} \times \frac{360}{1}$ $= \$54$	

13.	A rectangle has a length of 14cm. Its width is HALF as long.
	
	What is the distance around the rectangle?
	
	Answer _____
		L = 14cm W = 7cm
		
		Perimeter = 2L + 2W
		          = (2 x 14) + (2 x 7)
		          = 28 + 14
		          = **42cm**	

14.	Kavita begins her dance class at 8:30 am. She arrives a quarter of an hour BEFORE the start of the class. What time did she arrive? Answer _____	8:30 – 0:15 = **8:15 am**	

15.	The shape shown has a perimeter of 50cm. **14cm** **x** **11cm** **5cm** **8cm** Find the length of side x? Answer _____	Perimeter of shape = 50cm Side x = 50 – (14 + 11 + 8 + 5) = 50 – 38 **= 12cm**	
16.	A compass pointer moves from North to South East in a clockwise direction. Through how many degrees did it turn? Answer _____	$N \rightarrow SE = 90^0 + 45^0$ $= \mathbf{135^0}$	
17.	Calculate the value of angle x below. X X 70º Answer _____ degrees.	$2X = 180^0 - 70^0$ $2X = 110^0$ $X = \mathbf{55^0}$	
18.	The following points were obtained in a game of darts 20, 60, 80, 20, 60, 20, 10, 40 . What is the MODAL point scored?	**20**	

Answer _____

19. Draw ALL lines of symmetry on the shape below.

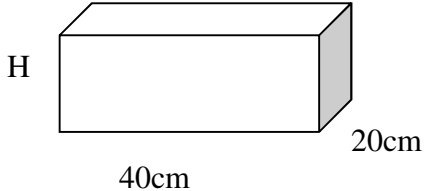20. The incomplete bar chart shows the number of fishes caught by 3 boys.

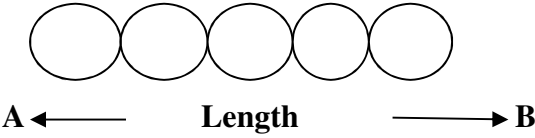Together the boys caught 9 fishes. Complete the graph to show the number of fishes Larry caught.
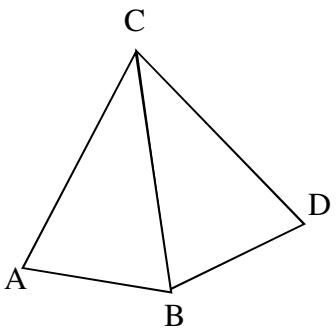
Answer _____

SECTION 2

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

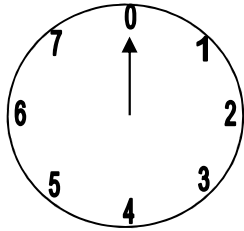| No.	Items	Working Column	Marks
21.	$15\frac{3}{4} \div 2\frac{1}{4}$ Answer _____ (2)	$15\frac{3}{4} \div 2\frac{1}{4}$ $\frac{63}{4} \div \frac{9}{4}$ $\frac{63}{4} \times \frac{4}{9}$ $= 7$	
22.	$\frac{3}{7}$ of a class is absent. There are 24 children present. How many children are in the class? Answer _____ (2)	$\frac{3}{7}$ =absent $\frac{4}{7}$ = present $\frac{4}{7} = 24$ $1 = \frac{24}{1} \times \frac{7}{4}$ $= 42$ **students**	
23.	A newspaper stand has twice as many daily newspapers as weekly ones. There are 42 newspapers in all. How many DAILY newspapers are there at the stand? Answer _____ (2)	$42 \div 3 = 14$ Daily $= 14 \times 2$ $\quad\quad\quad = 28$ Weekly $= 14$	
24.	(a) Write in the correct sign, either $>$ or $<$, to complete the statement below. $\frac{3}{5}$ ☐ $\frac{3}{8}$ (1) (b) Calculate the difference between $\frac{3}{5}$ and $\frac{3}{8}$ Answer _____ (2)	$\frac{3}{5} > \frac{3}{8}$ $\frac{3}{5} - \frac{3}{8}$ $\frac{24 - 15}{40}$ $= \frac{9}{40}$	

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25.	$\frac{4}{5}$ of the number of pens in a pack is 60. Calculate how many more pens are needed to fill the pack. Answer _____ (3)	$\frac{4}{5} = 60$ $1 = \frac{60}{1} \times \frac{5}{4}$ $= 75$ $75 - 60 = $ **15 pens needed**	
26.	Complete the number pattern below. (a) $\frac{1}{2}$, $\frac{2}{6}$, ——— , $\frac{8}{54}$. Answer _____ (2) (b) What is the fifth fraction in the pattern? Answer _____ (1)	(a) $\frac{2}{6} \times \frac{2}{3} = \frac{4}{18}$ (b) Fifth pattern $= \frac{8}{54} \times \frac{2}{3}$ $= \frac{16}{162}$	
27.	A large block of ice has a volume of 12,000 cm^3. H 20cm 40cm (a) What is its height? Answer _____ (1) (b) What is the AREA of the Shaded face of the block of ice? Answer _____ (2)	(a) H = $\frac{\text{Volume}}{\text{L x W}}$ H = $\frac{12000}{40 \times 20}$ H = $\frac{12000}{800}$ H = **15cm** (b) Area = L x W = 20 x 15 = **300cm²**	

28.	What is the smallest number when divided by 6, 8 and 12 will always leave a remainder of 3? Answer _____ (2)	6 – 6, 12, 18, 24, 30, 36 8 – 8, 16, 24, 32, 40, 48 12 – 12, 24, 36, 48, 60 H.C.F = 24 24 + 3 = **27**	

29.	A shirt was sold at a loss of $12\frac{1}{2}$ % for \$42.00. Calculate the cost price of the shirt.
	
	Answer _____ (3)
		Cost Price = 100%
		S.P = 100% - 12.5%
		    = 87.5% or $\frac{7}{8}$
		$\frac{7}{8}$ = 42
		1 = $\frac{42}{1}$ x $\frac{8}{7}$
		    = **\$48**	

30.	Each circle in the pattern below is made from 44cm of wire.
	
	A ⟵ **Length** ⟶ B
	
	(a) Calculate the diameter of ONE of the circles.
	
	Answer _____ (2)
	
	(b) If one more circle was added, what will be the length of the new pattern from point A to B?
	
	Answer _____ (1)
		(a) Circumference = 44cm
		
		Diameter = C ÷ π
		    = 44 ÷ $\frac{22}{7}$
		    = $\frac{44}{1}$ x $\frac{7}{22}$
		    = **14cm**
		
		(b) 6 x 14 = **84cm**	

31.	Complete the bill below for school supplies.	(a) 4 notebooks

31. Complete the bill below for school supplies.

Items	Unit Cost	Cost
1 textbook	$82.00	$82.00
4 notebooks	$9.50	$
5 pencils	$2.00	$10.00
Total Cost before VAT		$130.00

(b)VAT @ 15% $_____

(c) Final bill (with VAT) $_____

(3)

(a) 4 notebooks
$$= \$130 – (\$82 + \$10)$$
$$= \$130 - \$92$$
$$= \textbf{\$38}$$

(b) VAT $= \frac{15}{100}$ x $\frac{130}{}$
$$= \textbf{\$ 19.50}$$

(c) Final Bill

$$= \$130 + \$19.50$$
$$= \textbf{\$149.50}$$

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32. Carol, Ann and Faraz were given a total of $56.00. Faraz has $5.00 more than Carol and Carol has $3.00 more than Ann.

Calculate how much money each child was given.

Answer: Carol _____

Ann _____

Faraz _____   (3)

Ann = x
Carol = x + 3
Faraz = x + 8 (5 + 3)

x + x + x + 3 + 8 = $56
3x + 11   = $56
3x   = $56 – 11
3x   = $45
x   = $45 ÷ 3
x   =$15

Carol = $18 ($15 +$3)
Ann   = $15
Faraz = $23 ($15 + $8)

33.	The diagram below is made up of two similar isosceles triangles. Line AB is 8cm and line AC is 10cm. C D A B What is the perimeter of the combined shape? Answer _____ (2)	Perimeter = (8 x 2) + (10 x 2) = 16 + 20 = **36cm**	
34.	The cost of an adult ticket for a cinema show is $50.00. A ticket for a child costs HALF price. What is the total cost for 12 adults and 7 children's tickets? Answer _____ (3)	Adult = $50 Child = $25 12 adults + 7 children = (12 x 50) + (7 x 25) = $600 + $175 = **$775**	

35.	For every 6m^2 of a wall that Thomas paints, Barney paints 4m$^{2.}$ Barney eventually paints 56m^2 of the wall. Calculate the area of wall painted by Thomas.
	
	Answer _____ (2)
		Barney = 4m^2
		Thomas = 6m^2
		
		Barney = 56m^2
		Thomas = (56 ÷ 4) x 6
		        = 14 x 6
		        = **84m^2**	

36.	The diagram shows the meter for a car engine.	(a) 8 spaces = 360^0	
		$1\text{space} = 360^0 \div 8$	
		$= \mathbf{45^0}$	
	(a) Through what FRACTION must the needle move to point 1?	(b) $225^0 \div 45^0 = \mathbf{5}$	
	Answer _____ (1)		
	(b) At what number will the needle stop to complete a 225^0 clockwise turn?		
	Answer _____ (1)		
37.		(a) **Kite**	
		(b)	
	(a) Name the shape drawn on the grid.		
	Answer _____ (1)		
	(b) Draw one line of symmetry on the shape above.		
	(1)		
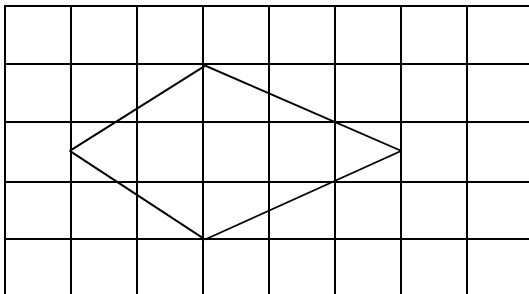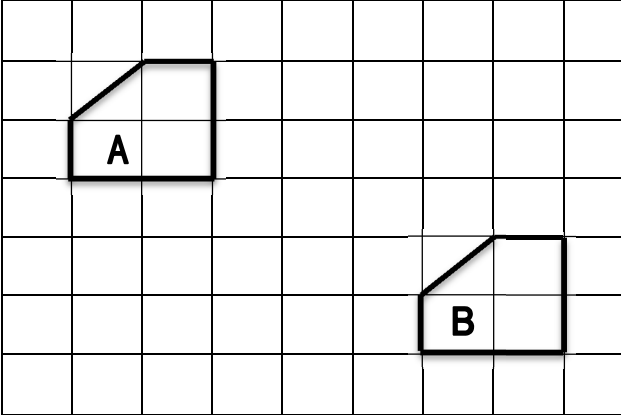
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38.	The shape below has moved from position A to B.
	
	  (a) Name the movement.
	
	Answer _____ (1)
	
	  (b) Describe the movement completely.
	
	Answer _____
	
	       _____
	
	       _____ (2)
		(a) Slide / Translation
		
		(b) Shape A slid 5 units
		     right and 3 units down	

39.	Randy used the faces of solid shapes to make plane shape prints. Name 2 solids that will give him circular prints. Answer _____ _____ (2)	**Cylinder** **Cone**	

40.

The incomplete line graph shows the times children spend on homework.
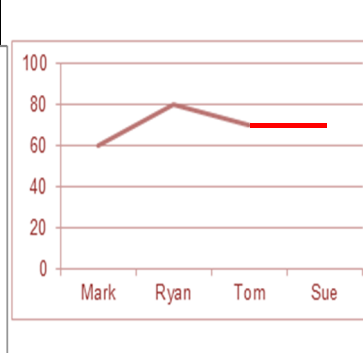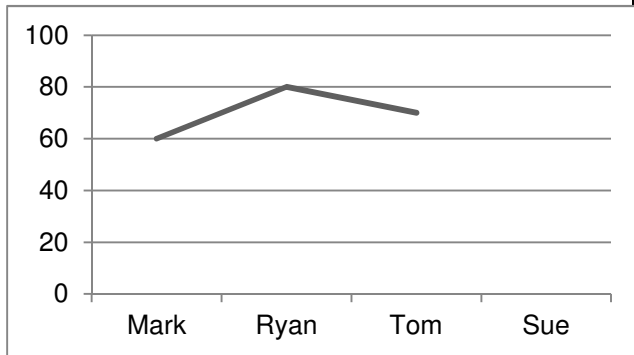
A total of 280 minutes was spent on homework.
Complete the line graph above for Sue.

(2)

Sue
= 280 – (60+ 80+ 70)
= 280 – 210
= **70** minutes

SECTION 3

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

No.	Items	Working Column	Marks
41.	Samantha was required to calculate the product of 75 and 17. Instead she multiplied: 75 by 19 (a) What was Samantha's incorrect product? Answer _____ (1) (b) By how much was Samantha's product MORE than the CORRECT answer? Answer _____ (2) (c) Write the missing number to complete the number statement below to get the CORRECT answer for 75 by 17. (75 x _____) + (75 x 7) (1) (d) Write in the missing SIGN in the box below that Samantha could have used to correct her error. (75 x 19) ☐ (75 x 2) (1)	(a) 75 x 19 = 750 + 675 = **1425** (b) 75 x 17 = 750 + 525 = **1275** Difference = 1425 -1275 = **150** (c) 75 x **10** (d) ☐ = **-**	

42.	Kelly sold 60% of her plums and gave her father 15% of the remainder.
	
	Kelly remained with 68 plums.
	
	(a) Calculate how many plums Kelly had at the beginning.
	
	Answer: _____ plums (3)
	
	(b) How many more plums did Kelly sell than her father received?
	
	Answer:_____ plums (2)
		(a) Sold = 65% Remainder = 40%
		Father = 15% of 40%
		Kept = 85% x 40%
		  = 0.85 x .4
		  = 0.34 or $\frac{17}{50}$
		$\frac{17}{50}$ = 68
		$1 = \frac{68}{1}$ x $\frac{50}{17}$
		 = **200 plums**
		
		(b) Sold = 200 x 0.6
		  = 120
		  Father = $\frac{15}{100}$ x $\frac{80}{1}$
		  = 12
		  Difference = 120 – 12
		  = **108 plums**	

43.	Mr. Harris took a loan of $16000.00 for 2 years at a rate of 10% per annum.
	
	  (a) Calculate his interest.
	
	Answer: _____ (1)
	
	(b) Calculate the amount to repay.
	
	Answer: _____ (2)
	
	(c) The amount is repaid in EQUAL MONTHLY instalments. What would be the value of EACH instalment?
	
	Answer: _____ (2)
		(a) S.I = $\frac{P \times R \times T}{100}$
		
		  = $\frac{16000 \times 10 \times 2}{100}$
		  = **$3200**
		
		(b) Amount = $16000 + $3200
		  = **$ 19 200**
		
		(c) Mthly Instalment
		  =$19200 ÷ 24
		  = **$ 800**	

44. A café stocks 600 cups. $62\frac{1}{2}$ % of it is used to serve juice and the rest for tea.

(a) How many cups were used to serve juice?

Answer: _____ (1)

(b) How many cups were used to serve tea?

Answer:_____ (1)

(c) The cups were bought in sets of 10 for $32.00. Calculate the cost of purchasing 150 juice cups and 50 tea cups.

Answer:_____ (3)

(a) Served Juice = 62.5% x 600
$$= \frac{5}{8} \times \frac{600}{1}$$
= 75 x 5
= 375 cups

(b) Tea = 600 – 375
= 225 cups

(c) Total = 150 + 50
= 200
Cost = 200 ÷ 10
= 20 x $32
= $640

45. Rectangle E is placed next to a large square labelled A. Three identical smaller squares B, C and D join rectangle E and square A, as shown.

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E |‾‾‾‾|‾|  D
  |    |_|  C
A |____|_|  B
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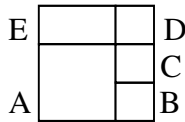
The area of square A, is 16cm².

Calculate:

(a) the length of a side of square A.

Answer: _____ (1)

(b) the area of square B.

Answer: _____ (1)

(c) the area of rectangle E.

Answer: _____ (2)

(d) the area of the entire shape.

Answer: _____ (1)

(a) Area of square = 16cm²
           Side = $\sqrt{16}$
                = **4cm**

(b) Side of B = 4 ÷ 2
             = 2cm
    Area of B = 2 x 2
             = **4cm²**

(c) Rectangle E – L = 6cm W = 4cm
    Area of rect. E = L x W
                   = 4 x 2
                   = **8cm²**

(d) Area of square = S x S
                  = 6 x 6
                  = **36cm²**

46.	Laura played 5 games of hockey. The points she got are shown in the table.

Games	1st	2nd	3rd	4th	5th
Points	25	20	22	16	32

a) What was the difference between her highest and lowest scores?

Answer:_____ (1)

b) What is her MEAN number of points for a game?

Answer: _____ (2)

c) After six games, Laura's mean is 24. How many points did she score in the sixth game?

Answer: _____ (2) | (a) Difference = 32 – 16
$\qquad\qquad$ **= 16**

(b) Mean = $\dfrac{25 + 20 + 22 + 16 + 32}{5}$

$\qquad\quad = \dfrac{115}{5}$
$\qquad\quad$ **= 23**

(c) Total after 6 games
$\quad$ = 6 x 24
$\quad$ = 144
$\quad$ Total after 5 games
$\quad$ 144 – 115
$\quad$ **= 29** | |
| | **END OF TEST 19** | | |