TEST
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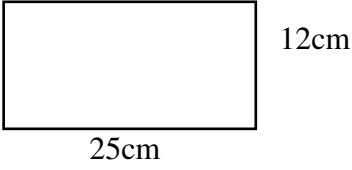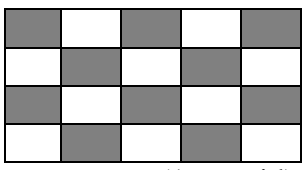# MATHEMATICS TEST 9   TIME- 75 MINUTES
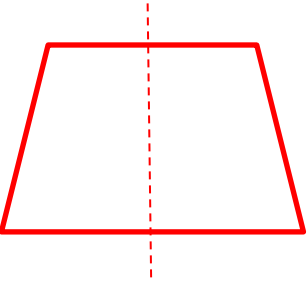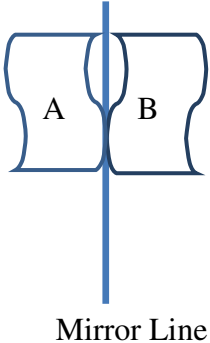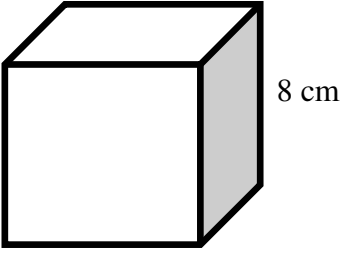
SECTION 1

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

No.	Items	Working Column	Marks
1.	Which digit is in the tens of thousands place in the number 378 412 ? Answer:_____	**7**	
2.	Use > , < or = to correctly complete the statement below. 450 ones ☐ 45 tens Answer:_____	**=**	
3.	What is the value of the 8 in the numeral 372.86 Answer:_____	$\dfrac{8}{10}$	
4.	Approximate 5832 to the nearest thousand. Answer:_____	$5832 \approx \mathbf{6000}$	
5.	What number is missing from the box below? $8\frac{4}{9} + 3 = 7\frac{2}{9} + $ ☐ Answer:_____	$8\frac{4}{9} + 3 = 11\frac{4}{9}$ $11\frac{4}{9} - 7\frac{2}{9}$ $= \mathbf{4\frac{2}{9}}$	

6.	Complete the table below. 	Common Fraction	Decimal Fraction	Percentage
$\frac{5}{6}$		$83\frac{1}{3}\%$ | Answer:_____	$\frac{5}{6} = 5 \div 6$ $= \textbf{0.833}$	
7.	Write the number for the following expansion. $(5 \times 1000) + (3 \times 100) + (8 \times \frac{1}{100}) =$ Answer:_____	$5000 + 3 + +.08$ $= \textbf{5300.08}$	
8.	Calculate the value of X in the equation below. $X + 36 = 86\frac{1}{2} - 12\frac{1}{2}$ Answer:_____	$X + 36 = 86\frac{1}{2} - 12 - \frac{1}{2}$ $X + 36 = 74$ $X = 74 - 36$ $X = \textbf{38}$	
9.	Complete the sequence of fractions below. $\frac{1}{12}, \frac{1}{8}, \frac{4}{12}, \frac{2}{8}, \frac{8}{12}, \boxed{}$ Answer:_____	$\frac{\textbf{3}}{\textbf{8}}$	
10.	$\frac{1}{3}$ of a number is 48. What is the number? Answer:_____	$\frac{1}{3} = 48$ $1 = 48 \times 3$ $= \textbf{144}$	

11.	Calculate the value of $\diamondsuit^2$ - $\triangle$ x 2 = If $\diamondsuit$ = 6 and $\triangle$ = 5 Answer:_____	$6^2 - (5 \text{ x } 2)$ $= 36 - 10$ $= \mathbf{26}$	
12.	What is the product of 372 and 25? Answer:_____	**9300**	
13.	12cm 25cm What is the perimeter of the shape above? Answer:_____	Perimeter of rect. = 2L + 2W $= (25 \text{ x } 2) + (12 \text{ x } 2)$ $= 50 + 24$ $= \mathbf{74cm}$	
14.	Find the area of the shaded part of the shape below. (1cm grid) Answer:_____	Area of shaded part = $\mathbf{10cm^2}$	

15.	The mean of two numbers is 46. One of the numbers is 54. What is the other number? Answer:_____	Mean = 46 x 2 Total = 92 Other number = 92 – 54 **= 38**	
16.	How many lines of symmetry are there in the shape below. Answer:_____	**One** 	
17.	 Mirror Line What is the name of the movement made by the shape from position A to position B? Answer:_____	**Flip or Reflection**	

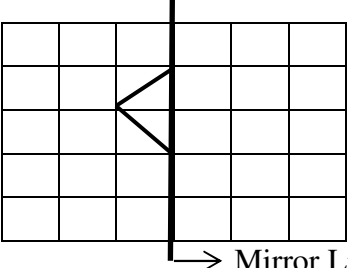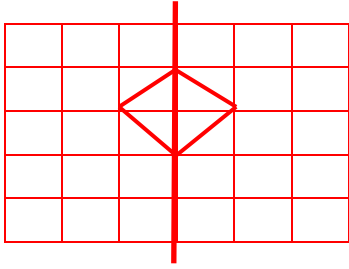|			
18.	What is the most appropriate unit for measuring the weight of a pencil? Answer:_____	**Grams**	
19.	Calculate the volume of the cube below. 8 cm Answer:_____	Volume of cube = S x S x S = 8 x 8 x 8 = **512cm³**	
20.	Name the shape that is made up of four triangular faces and one square face. Answer:_____	**Square-Based Pyramid**	

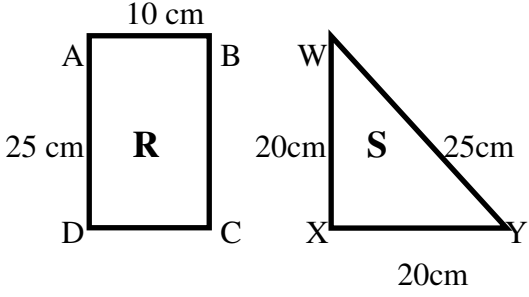**Each question is worth either 2 or 3 marks. Answer ALL questions. Show ALL working in the Working Column.**

No.	Items	Working Column	Marks
21.	A piece of cloth is cut into 30 pieces. Each piece measures $\frac{3}{5}$ m long. Calculate the total length of the piece of cloth. Answer:_____m (2)	1 pc = $\frac{3}{5}$ m 30 pcs = $\frac{3}{5}$ x $\frac{30}{1}$ **= 18m**	
22.	If 220 is $\frac{4}{5}$ of a school's population, what is the school's total population? Answer:_____pupils (2)	$\frac{4}{5}$ = 220 1 = $\frac{220}{1}$ x $\frac{5}{4}$ **= 275 pupils**	
23.	In an office there is accommodation for EXACTLY 280 people. There are tables that seat either 5 or 6 persons. If there are 20 tables that seat 5 people each, how many tables are there that seat 6 persons if ALL spaces are occupied? Answer:_____tables (2)	Total = 280 persons 5 seaters = 20 x 5 = 100 ∴ 4 seaters = (280 – 100) ÷ 6 = 180 ÷ 6 **= 30 tables**	
24.	Jason walks 320 metres and jogs 3.85 kilometres every morning. What is the total distance in kilometres that Jason covers every morning? Answer:_____km (2)	320 m = .320 km + 3.85 km **= 4.17 km**	

25.	Karen has 16 yellow, 14 blue , 12 green and 20 red balls. What fraction of the balls were yellow and blue together? Answer:_____(2)	Total = 16 + 14 + 12 + 20 = 62 Yellow + Blue = $\frac{30}{42}$ = $\frac{5}{7}$	
26.	A book and a ruler weigh 400g. The book makes up 60% of the weight. a) What is the weight of the book? Answer:_____(1) b) What fraction of the weight is the ruler? Answer:_____(2)	(a) 60% x 400g = 0.6 x 400 = **240g** (b) If book = 60%, then ruler = 40% 40% = $\frac{2}{5}$	
27.	Kelsie gave $\frac{3}{8}$ of her coloured pencils to her cousin and $\frac{3}{5}$ to her brother. She kept the remainder. What fraction of the coloured pencils did she keep? Answer:_____(3)	Kept = $1 - [\frac{3}{8} + \frac{3}{5}]$ = $1 - \frac{39}{40}$ = $\frac{1}{40}$	
28.	Anya has 80 plums in a bag. She gave 0.25 of them to Johann and $\frac{1}{3}$ of the remainder to Sally. How many plums are left in the bag? Answer:_____(3)	Johann = 0.25 x 80 = 20 plums Remainder = 80 – 20 = 60 plums Sally = $\frac{1}{3}$ x $\frac{60}{1}$ = 20 plums Left in bag = 80 – (20 + 20) = 80 – 40 = **40 plums**	

29.	Mr. David shared 90 stickers between 2 students in the class. Aaron got 14 more than Sam. How many stickers did Aaron get? Answer:_____(2)	90 – 14 = 76 76 ÷ 2 = 38 Aaron = 38 + 14 **= 52 stickers**	
30.	 Ravi was facing southwest. He turned CLOCKWISE until he was facing southeast. Through how many degrees did he turn? Answer:_____(2)	8 spaces = 360^0 1 space = $360^0 \div 8$ = 45^0 Ravi moved = 6 spaces ∴ he turned = 6 x 45^0 **= 270^0**	

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31.	→ Mirror Line a) Draw the reflection of the figure shown above. Answer:_____(1) b) Name the combined figure. Answer:_____(1)	(a) (b) Square	
32.	There are 700 pupils in a school. If there are 74 more boys than girls, calculate how many boys and girls are in the school. Answer: _____ BOYS _____GIRLS (3)	$700 - 74 = 626$ $626 \div 2 =$ **313 Girls** Boys $= 313 + 74$ $=$ **387 bys**	
33.	There are 560 workers employed in a gas company. The number of workers will increase by 20% in the next year. How many workers will be needed next year? Answer:_____workers (3)	Next year $= 100\% + 20\%$ $= 120\%$ $\dfrac{120}{100} \times \dfrac{560}{1}$ $=$ **672 workers**	

34.	Aunty Sal used 5.75 litres of juice-concentrate and 3.5 litres of water to make a bucket of juice. How many litres of liquid will be needed in all to make 5 buckets of the same juice? Answer:_____(3)	1 bucket = 5.75 + 3.5 = 9.25 l 5 buckets = 9.25 x 5 **= 46.25 l**	
35.	10 cm A ⌐—————⌐ B W 25 cm **R** 20cm **S** 25cm D ⌐—————⌐ C X————Y 20cm The figures above represent a rectangle, R and a triangle S. Which of the two figures have the greater area? Answer:_____(3)	Area of rect. = L x W = 25 x 10 = 250cm^2 Area of triangle = $\dfrac{B \times H}{2}$ = $\dfrac{20 \times 20}{2}$ = 200 cm^2 ∴ **R has the greater area**	
36.	Tomato plants are planted 1.5 metres apart. The distance between the first plant and the last plant is 39 metres. How many tomato plants were planted? Answer:_____plants (2)	39 ÷ 1.5 = 26 + 1 **= 27 plants**	
37.	Chris works from 8:00a.m. to 4:00p.m. from Monday to Friday. He is paid $16.00 per hour. Each over time hour is paid at time and a half. What is Chris's total weekly wage if he works 10 hours overtime for the week? Answer: $_____(3)	1 day = 8 hours 1 week = 8 x 5 = 40 hours Basic Wage = 40 x 16 = $640 Overtime = 10 x [$1\frac{1}{2}$ x 16] = 10 x [$\frac{3}{2}$ x $\frac{16}{1}$] = 10 x 24 = $ 240 Total $640 + $240 **=$880**	

38.	Complete the table below:		

38. Complete the table below:

	Plane Shape	No. of sides	No. of pairs of equal sides
a)	Rhombus	4	
b)	Isosceles Triangle	3	
c)	Parallelogram		2

Answer: _____ (3)

39.
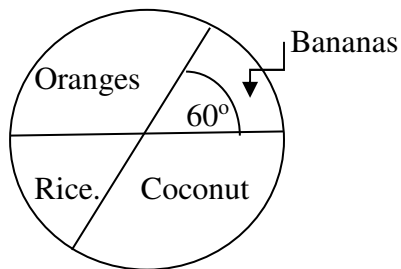
The pie chart shows how 420 acres of land were divided into four crop areas. 60° represents the amount of land used to plant Bananas.

How many acres of land were used to plant Bananas?

Answer: _____acres (3)

40. The table below shows Melia's savings for one week.

Day of Week	Amount saved
Monday	$1.75
Tuesday	$1.00
Wednesday	$2.00
Thursday	$1.00
Friday	$1.00

Calculate her mean savings per day.

Answer: _____ (2)

$$\text{Mean} = \frac{\text{Sum}}{N(n)}$$

$$= \frac{1.75 + 1.00 + 2.00 + 1.00 + 1.00}{5}$$

$$= \frac{\$6.75}{5}$$

$$= \$\,1.35$$

SECTION 3

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

| 41. | In a church, 50% of the people attending were women.

There were 300 women, 150 men, 90 boys and the rest were girls.

  (a) How many girls attend church?

Answer : _____ (2)

  (b) Calculate the total number of people attending the church.
Answer: _____ (1)

  (c) What percent of the people at church were girls?
Answer: _____ (2) | (a) 50% = 300
∴150 + 90 + G = 300
240 + G = 300
Girls = 300-240
= 60 girls

(b) Total no. of persons = 300 x 2
           = 600

(c) Girls $= \frac{60}{600} \times \frac{100}{1}$

      = 10% | |
| 42. | In the year 2009, Mary was 15 years old. In 2015 Mary would be three times as old as her cousin Sam.

(a) Calculate Sam's age in 2009.

Answer: _____ (2)

(b) In what year was Mary born?

Answer:_____ (1)

(c) What would be the total of Mary and Sam's age in 2015?

Answer:_____ (2) | (a) 2009 = 15 years
    2015 = 15 + 6
        = 21 years

Sam's age in 2015 = 21 ÷ 3
             = 7 years
Sam's age in 2009 = 7-6
           = 1 year

(b) 2009 – 15 = **1994**

(c) Mary + Sam = 21 + 7

        = 28 years | |

43. Glen borrowed $12 000 from the Credit Union at a rate of 6% per annum for a period of 5 years.

(a) Calculate the interest he would have to pay on the loan.

Answer: _____ (2)

(b) How much would he have to repay the Credit Union?

Answer: _____ (1)

(c) What would be Glen's monthly installment?

Answer: _____ (2)

(a) Simple Interest $= \dfrac{P \times R \times T}{100}$

$= \dfrac{12000 \times 6 \times 5}{100}$

$= \mathbf{\$3600}$

(b) Amount $= \$12000 + \$3600$
$= \$ \mathbf{15600}$

(c) Glen's monthly installment

No. of months $= 12 \times 5$
$= 60$ months

Installments $= \dfrac{\text{Amount}}{\text{No. of mths.}}$

$= \dfrac{\$15600}{60}$
$= \mathbf{\$\ 260}$

44.

(a) If the long hand of the clock moves 120° in an ANTI-CLOCKWISE direction, to which number will it now point?

Answer: _____ (2)

(b) How many degrees would the long hand turn if it moved from 7 to 11 in a clockwise direction?

Answer:_____ (2)

(c) To which number would the long hand point if it made a COMPLETE turn?

Answer:_____ (1)

(a) 120^0 = 4 spaces (120 ÷ 30)
7 - 4 = 3
The long hand will point to 3

(b) 4 spaces = 30^0 x 4
= **120^0**

(c) **7**

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45.	A worker needs to tile a kitchen floor which is 12m long by 7.5m wide. (a) What is the area of the floor to be tiled ? Answer: _____ (2) (b) What is the area of a tile if each tile is a square with a side of 30cm. Answer: _____ (2) (c) How many such tiles would the worker need to tile the kitchen floor? Answer: _____ (1)	(a) Area of floor = 12 x 7.5 $\qquad$ **= 90m^2** (b) Tile = S x S $\qquad$ = 30 x 30 $\qquad$ **= 900 cm^2** (c) 12m = 1200 cm 7.5m = 750cm $\qquad$ No. of tiles = $\dfrac{1200 \times 750}{30 \times 30}$ $\qquad$ **= 1000 tiles**	

46.	Mr. Taylor has a bag with crayons. There are 320 crayons in the bag. Forty percent of them are blue, ¼ of the remainder are purple, and the others are orange.
	
	    a) How many blue crayons are in the bag?
	
	Answer:_____ (1)
	
	    b) What percentage of the crayons is purple?
	Answer: _____ (2)
	
	    c) What fraction of the crayons in the bag are orange?
	
	Answer: _____ (1)
		(a) Blue = 40% x 320
		$\qquad$ = 0.4 x 320
		$\qquad$ = **128** blue crayons
		
		(b) Remainder = 320 – 128
		$\qquad$ = 192
		
		$\qquad$ Purple = $\dfrac{1}{4}$ x $\dfrac{192}{1}$
		$\qquad$ = 48
		$\qquad$ Percentage Purple = $\dfrac{48}{320}$ x $\dfrac{100}{1}$
		
		$\qquad$ **= 15%**
		
		(c) Orange = 100% - [40 + 15]
		$\qquad$ = 100% - 55%
		$\qquad$ = 45%
		
		$\qquad$ = $\dfrac{9}{20}$	

	END OF TEST 9		