TEST
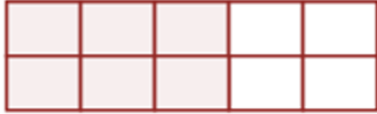
10

MATHEMATICS TEST 10   TIME- 75 MINUTES
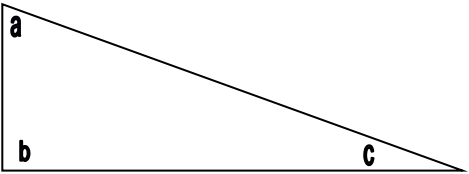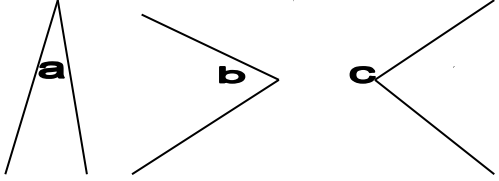
SECTION 1

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

No.	Items	Working Column	Marks
1.	Write the value of the **3** in the number 2**3**4 197. Answer: _____	**30 000**	
2.	Shade 60% of the shape below.		
3.	Write the **LARGEST** number using all the digits below to make a number exactly divisible by **5**. **5 4 7 3** Answer: _____	**7435**	
4.	What is the **PLACE VALUE** of the digit **8** in the number 415. **8**2? Answer:_____	**$\dfrac{8}{10}$**	
5.	What is the length of the object shown? Answer:_____	**5cm**	

174
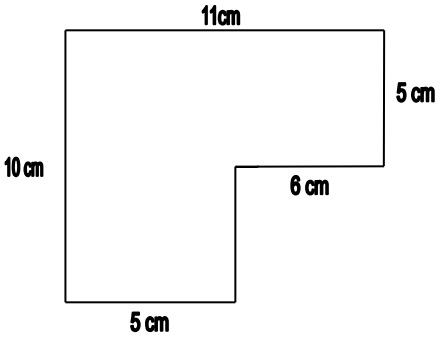
6.	Write the following fractions in order of size. Start with the SMALLEST $\dfrac{3}{10}$ $\dfrac{7}{20}$ $\dfrac{1}{5}$ Answer:_____	**$\dfrac{1}{5}$ $\dfrac{3}{10}$ $\dfrac{7}{20}$**	
7.	Calculate 25% of 124 Answer:_____	$\frac{1}{4}$ x 124 **= 31**	
8.	Add $3\,\dfrac{1}{4}$ and $5\,\dfrac{4}{5}$ Answer:_____	**$9\,\dfrac{1}{20}$**	
9.	Complete the net of the triangular prism. 		
10	Jane sold 43 stamps. She has 71 stamps remaining. How many stamps had Jane at first? Answer:_____	Total = 43 + 71 **= 114**	
11.	$4\,\dfrac{3}{4}$ km = _____m Answer:_____	**4750 m**	
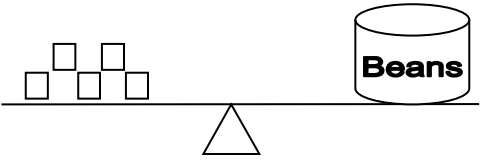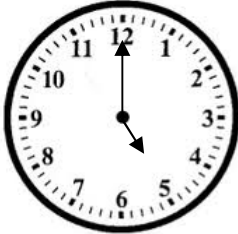
12.	Mr. Khan bought a bag for $175.00 and sold it for $149.00. Calculate his loss. Answer:_____	Loss = $ 175 - $149 **= $ 26**	
13.	Write the time shown in digital notation. Answer :_____	**4:55**	
14.	Calculate the area of the rectangle below. 12 m 4 m Answer: _____	Area of rect. = L x W = 12 x 4 **= 48m^2**	
15.	 Order the angles a, b, c according to the size from **LARGEST** to **SMALLEST**. Answer:_____	**b, a, c**	
16.	Name an appropriate metric unit for measuring the height of a doorway. Answer: _____	**Metre**	
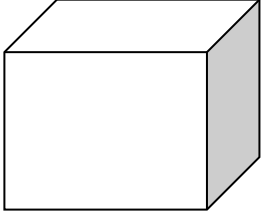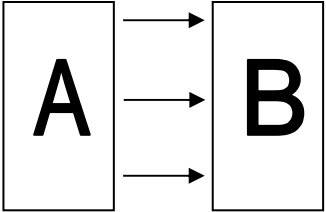
17.	$10 $50 _____
	
	$5 ____ $20
	
	$20 $5 $10
	
	Write the dollar bills that are missing above to get a total of $135.00.
	
	Answer: _____
		Missing Quantity = 135 – (10 + 50 + 5 + 20 + 20 + 50 + 10)
		
		         = 135 – 120
		         = $ 15	

18.	 Which of the above angles is a reflex angle? Answer: _____	**C**	
19.	A bag with 45kg of onions was divided into smaller bags each weighing 4.5kg. How many bags were obtained? Answer:_____	$45 \div 4.5$ $= 450 \div 45$ **= 10 bags**	
20.	The pictograph below shows the number of pupils who eat fruits in each Std. 1 class. :) = 7 pupils How many pupils are in Std. 1? Answer:_____	$9 \times 7 = $ **63 pupils**	

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.	Calculate $5\dfrac{3}{8}$ - $2\dfrac{1}{2}$ Answer:_____(2)	$5\dfrac{3}{8} - 2\dfrac{1}{2}$ ~~3~~ 2 $\dfrac{3+8 \ -4}{8}$ 2 $\dfrac{11 \ -4}{8}$ = $\mathbf{2\dfrac{7}{8}}$	
22.	$\dfrac{3}{5}$ of a number of marbles is 60. What then is $1\dfrac{1}{2}$ times the number of marbles? Answer:_____(2)	$\dfrac{3}{5} = 60$ $1 = 60 \text{ x } \dfrac{5}{3}$ $= 100$ $1\dfrac{1}{2} = 100 \text{ x } 1.5$ $= \mathbf{150\ marbles}$	
23.	Questions 23 & 24 are based on the compound shape below Calculate the perimeter of the compound shape. Answer:_____(2)	Perimeter of shape = 11 + 5 + 6 + 5 + 5 + 10 $= \mathbf{42cm}$	
24.	Calculate the area of the compound shape. Answer:_____(2)	Area of rect. = 11 x 5 $= 55cm^2$ Area of square = 5 x 5 $= 25cm^2$ Area of compound shape = 55 + 25 $= \mathbf{80cm^2}$	

25.	 ☐ ‾‾‾‾‾‾ = 45 g What is the total weight of the can of beans? Answer:_____(2)	$1\ \square = 45g$ $5\ \square = 45 \times 5$ $\quad = \textbf{225g}$	
26.	Take $5\frac{3}{7}$ from 9. Answer:_____(2)	$9 - 5\frac{3}{7} = \mathbf{3\frac{4}{7}}$	
27.	 The **long hand** of the of the clock moves from its present position to 7. (a) Through how many degrees did it move? Answer:_____(1) (b) If the long hand now makes a quarter turn, to what number is it pointing? Answer:_____(1) (c) What fraction of a whole turn did the long hand make during its two movements? Answer:_____(1)	(a) Long hand moved = 7 spaces 1 space $= 30^0 \times 7$ $\quad = \mathbf{210^0}$ (b) Pointing to 7 $\frac{1}{4}$ turn = 3 spaces ($90^0 \div 3$) 7 + 3 = 10 Long hand is now pointing to **10** (c) Total spaces moved = 7 + 3 $\quad\quad = 10$ spaces $\therefore$ Fraction $= \frac{10}{12}$ **Fraction** $= \mathbf{\frac{5}{6}}$	

28.	The volume of the cube shown is 27cm^3.
	
	(a) Calculate the area of the shaded face.
	
	Answer:_____(1)
	
	(b) How many of these cubes can fit into a larger cube of side 9 cm?
	
	Answer:_____(2)
		(a) Volume of cube = 27cm^3
		    Side of cube = $\sqrt[3]{27}$
		                = 3cm
		    Area of shaded face = 3 x 3
		                         = **9cm²**
		
		(b) No. of cubes that can be fit = $\dfrac{9 \times 9 \times 9}{3 \times 3 \times 3}$
		                 = 3 x 3 x 3
		                 = **27 cubes**	

29.	A piece of ribbon 2.5m long is cut off from a roll 5.3m. Calculate the length of ribbon that remained. Answer:_____(2)	Length Remained = 5.3 – 2.5 = **2.8m**	

30.	
	
	Rectangles A and B are identical rectangles measuring 6 cm long by 3 cm wide.
	
	(a) Rectangle A is moved to join rectangle B. Name the combined shape formed.
	
	Answer:_____(2)
	
	(b) Calculate the area of the COMBINED shape.
	
	Answer:_____(1)
		(a) **Square**
		
		(b) Area of combined shape = S x S
		                       = 6 x 6
		                       = **36cm²**	

31. Complete the table below.

SOLID	NO. of EDGES	NO. of VERTICES
Cube		8
	9	6
Cone	1	

(3)

SOLID	NO. of EDGES	NO. of VERTICES
Cube	**12**	8
Triangular Prism	9	6
Cone	1	1

32. Mary bought 5 dresses at $175.00 each and a pair of shoes for $195.00. How much money did Mary spend?

Answer:_____(2)

5 dresses @$175 = $ 875
1 pair shoes   = $ 195
$1070

33. Marcus picked 352 oranges. He gave his friends $\frac{1}{8}$ of the oranges and sold $\frac{5}{16}$. How many oranges did Marcus keep for himself?

Answer:_____(2)

Gave + Sold = $\frac{1}{8}$ + $\frac{5}{16}$

$= \frac{7}{16}$

∴ Marcus kept = 1 - $\frac{7}{16}$

$= \frac{9}{16}$ x $\frac{352}{1}$

kept = 198 oranges

34. 329 x 96 = (329 x 100) - (329 x _____)

Complete the statement above.

Answer:_____(2)

329 x 4

35.	
	
	Shops A and B sell potatoes as shown above.
	
	(a) Calculate the cost of 2kg of potatoes at shop A.
	
	Answer:_____(1)
	
	(b) Which shop is selling potatoes at a cheaper price?
	
	Answer:_____(2)
		(a) $500g = \frac{1}{2}kg$
		   If $\frac{1}{2}$ kg = $ 3.50, then 1 kg = $3.50 x 2
		   1kg = $7.00
		   2kgs = $7.00 x 2
		        = **$14.00**
		
		(b) $\frac{1}{4}$ kg = $3.00
		   1 kg = $3.00 x 4
		      = $12.00
		
		Shop A → 1kg = $7.00
		Shop B → 1kg = $12.00
		
		Shop A sells cheaper	

36.	A car rental company charges $350.00 per day to rent a car. Gas for the car is $45.00 per day. How much would it cost a customer to rent the car for one week?
	
	Answer:_____(3)
		Total cost for 1 day =$350 + $45
		      = $395
		Total cost for 1 week (7 days) = $395 x 7
		        = **$2765**	

37.	A rectangular lawn is 24m long by 16m wide. A swimming pool 8m in length by 4 m wide was made in a part of the lawn. What area of lawn was left?
	
	Answer:_____(3)
		Area of lawn = 24 x 16
		    = 384 m^2
		Area of swimming pool = 8 x 4
		    = 32m^2
		Area of lawn left = 384m^2- 32m^2
		    = **352m^2**	

38.	After receiving a 15% **discount** on a handbag, Paula paid $680. Calculate the marked price of the handbag. Answer:_____(3)	Discount = 15% Paid = 85% (100% - 15%) 85% = $680 $\frac{85}{100}$ = 680 $1 \quad = \frac{\cancel{680}\,40}{1} \times \frac{\cancel{100}\,20}{\cancel{85\,17}\,1}$ = **$800**	

39.	Mrs. Khan bought 7 dozen eggs at $10.00 per dozen. Eighteen eggs broke on her way home. She sold the remaining eggs for $0.95 each. Calculate her profit or loss.
	
	Answer:_____(3)
		Cost Price = $10 x 7
		        = **$70**
		No. of eggs sold = (7 x 12) – 18
		        = 84 – 18
		        = 66
		Selling Price = 66 x $0.95
		        = **$ 62. 70**
		Selling Price < Cost Price = Loss
		Loss = $ 70.00 - $ 62.70
		    Loss = $7.30	

40.	15 posts were placed in a straight row 18m apart.
	
	(a) What is the distance from the first to the last post?
	
	Answer:_____ (2)
	
	(b) For a distance of 450m, how many posts will be needed?
	
	Answer:_____(1)
		(a) 15 – 1 = 14
		
		    14 x 18 = **252m**
		
		(b) 450m ÷ 18 = 25
		
		    25 + 1 = **26 posts**	

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

No.	Items	Working Column	Marks

41.	Chelsea picked 210 mangoes. She sold $\frac{4}{7}$ of it, gave her cousin $\frac{2}{3}$ of the remainder and kept the rest for herself.
	
	(a) How many mangoes did she sell?
	
	Answer:_____(1)
	
	(b) How many mangoes did Chelsea give to her cousin?
	
	Answer:_____(2)
	
	(c) Calculate the quantity of mangoes she kept for herself.
	
	Answer:_____(2)
		(a) Sold $= \frac{4}{7}$ x $\frac{210}{1}$
		  = **120 mangoes**
		
		(b) Remainder = 210 – 120
		  = 90 mangoes
		Cousin $= \frac{2}{3}$ x $\frac{90}{1}$
		  = **60 mangoes**
		
		(c) Quantity kept = 210 – (120 + 60)
		  = 210 – 180
		  = **30 mangoes**	

42.	A wall 8m by 5m is completely covered with square tiles of side measuring 50 cm.
	
	Calculate:
	
	(a) the area of the wall.
	
	Answer:_____(1)
	
	(b) how many tiles are required to completely cover the wall?
	
	Answer:_____(2)
	
	(c) the cost of the tiles if they are sold at $12 each plus 15%VAT.
	
	Answer _____ (2)
		(a) Area of wall = L x W
		  = 8 x 5
		  = **40 m²**
		
		(b) No. of tiles needed = $\frac{800 \times 5\cancel{00}}{5\cancel{0} \times 5\cancel{0}}$
		  = $\frac{4000}{25}$
		  = **160 tiles**	

43	A library charges $1.00 per book per day for returning books late. On	(a) Total Overdue = $ 20 4 books = $ 20	

	Tuesday 6th March, a student paid $20 for returning 4 books late. The books were all borrowed on the same day. (a) How many days were the books overdue? Answer:_____(2) (b) On what day should the books have been returned to the library to avoid overdue charges? Answer:_____	1 book = $ 20 ÷ 4 = $ 5 If $1 = 1 day, Then $5 = 5 days ∴ the books were **5 days overdue** (b) Books should have been returned = 6th – 5 days **= Thursday 1st March**	
44.	Marlon's working hours:	(a) Basic Wage = $18 x 40 **= $720**	

DAYS	HOURS
Mon.	8
Tues.	8
Wed.	8
Thurs.	8
Fri.	15

Marlon is paid $18.00 per hour for the first 40 hours and time and a half for extra hours.

Calculate:

(a) Marlon's wage for the first 40 hours.

Answer:_____(1)

(b) how much overtime he earned.

Answer:_____(2)

(c) The total wage he receives for the five days

Answer:_____(2)

(b) Total no. of hours worked = 47
Overtime hours = 47 – 40
$\qquad$ = 7 overtime hours

Overtime wage = $1\frac{1}{2}$ x 18
$\qquad$ = $\frac{3}{2}$ x $\frac{18}{1}$
$\qquad$ = $27/hr

Total Overtime = $27 x 7
$\qquad$ = **$189**

(c) Total Wage = $720 + $189
$\qquad$ = **$ 909**

45.

The mean sprint time for 4 races of a sprint athlete is 39 seconds. Three of his sprint times are 42, 37, and 35 seconds.

(a) Calculate his forth sprint time.

Answer:_____(2)

(b) What must be his time in the next sprint to lower his mean score to 38 seconds?

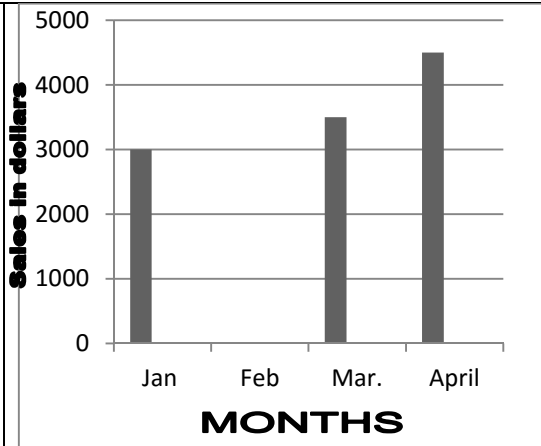Answer:_____(3)

(a) Mean = 39 ∴ Total = 39 x 4 = 156

4th Sprint Time = 156 – (42 + 37 + 35)
$\qquad$ = 156 – 114
$\qquad$ = **42**

(b) If Mean = 38   Total = 38 x5 = 190
Fifth Sprint = 190 – 156
$\qquad$ = **34**

46.

(a) 4500 – 3000 = **$1500**

The incomplete bar graph shows the monthly sales of a business for the months of January to April. The mean monthly sales for the same period is $3500.

(a) How much more was the sales in April than in January?

Answer:_____(1)

(b) What was the total sales for the four months?
Answer:_____(2)

(c) Complete the bar graph to show the total sales for the month of February?

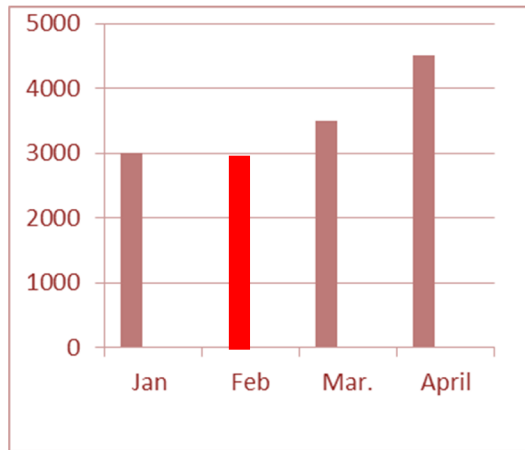Answer:_____(2)

(b) Total = Mean x no. of mths
= $3500 x 4
= **$14 000**

(c) Jan + Mar + Apr
3000 + 3500+4500

= $ 11 000

February = $14000 - $ 11000
= **$3000**

End of Test 10