TEST

23

MATHEMATICS TEST 23 TIME- 75 MINUTES

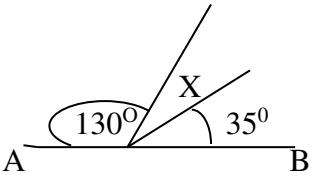
SECTION 1

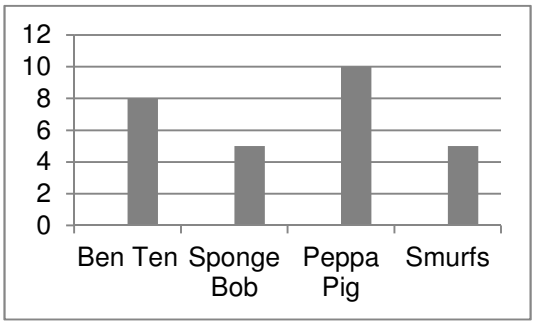
Each question is worth 1 mark. Answer ALL questions. Show ALL working in the Working Column.

No.	Items	Working Column	Marks
1.	Write in words 1 267 895. Answer _____	**One million, two hundred and sixty-seven thousand, eight hundred and ninety-five.**	
2.	Multiply 0.9 by 0.6 Answer _____	0.9 x 0.6 = **0.54**	
3.	How many halves are there in $3\frac{1}{2}$? Answer _____	$3\frac{1}{2} = \frac{}{2}$ $\frac{7}{2} = \frac{}{2}$ $\square = 7$	
4.	Convert 0.64 to a fraction in its LOWEST terms. Answer _____	$0.64 = \frac{64}{100}$ $= \frac{16}{25}$	
5.	Subtract $8\frac{2}{3}$ from 16. Answer _____	$16 - 8\frac{2}{3} = 7\frac{1}{3}$	

6.	8.7 ÷ 0.3 Answer _____	8.7 ÷ 0.3 = **29**	
7.	If 70% of a number is 21. What is the number? Answer _____	70% = 21 $\frac{7}{10}$ = 21 1 = $\frac{21}{1}$ x $\frac{10}{7}$ = **30**	
8.	What PERCENT of 42 is 14? Answer_____	$\frac{14}{42}$ x $\frac{100}{1}$ = **$33\frac{1}{3}$ %**	
9.	What is the value of the digit 7 in the number 5.072? Answer_____	**$\frac{7}{100}$**	
10.	If Justin scored 81 out of 90 in a Grammar test. Express Justin's score as a percent. Answer _____	$\frac{81}{90}$ x $\frac{100}{1}$ = **90%**	

11.	Mrs. Green buys copybooks to sell. For every dozen she buys, she gets 1FREE copybook. If she buys 72 copybooks, how many copybooks would she get free? Answer _____	Free = 72 ÷ 12 **= 6 free copybooks**	
12.	Sharon bought a chocolate cake and divided it into 16 equal parts. If Jenny eats $\frac{1}{4}$ of the cake, how many slices did she eat? Answer _____	$\frac{1}{4}$ x $\frac{16}{1}$ **= 4 slices**	
13.	If Shawn bought a T-Shirt for $27.50 and paid with a $50.00 bill. What will be his change? Answer _____	Change = $50.00 - $27.50 **= $22.50**	
14.	Which of the following: a pineapple, a pen or an orange could have a mass of one kilogram? Answer _____	**Pineapple**	
15.	Wendy is 28cm shorter than her sister who is 156cm tall. How tall is Wendy? Answer _____	Wendy = 156 – 28 **= 128cm**	

16.	Calculate the perimeter of the shape shown below.  9cm 15 cm Answer _____	Perimeter of rectangle = 2L + 2W = (2 x 15) + (2 x 9) = 30 + 18 = **48cm**	
17.	Name the shape below.  Answer _____	**Parallelogram**	
18.	 In the above diagram AB is a straight line. What is the value of angle x? Answer _____	$X = 180^0 - (130^0 + 35^0)$ $= 180^0 - 165^0$ $= \mathbf{15^0}$	

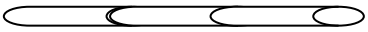
19.	In an End of Term Test, Natasha's mean score for 3 tests is 80 marks. If two of her scores are 85 and 70, calculate Natasha's third score. Answer _____	Total = 80 x 3 = 240 3rd Mark = 240 – (85 +70) = 240 – 155 = **85**	
20	The bar chart below shows the favourite cartoon shows of the children in Infants.  Which show was liked the most by the Infant children? Answer _____	**Peppa Pig**	

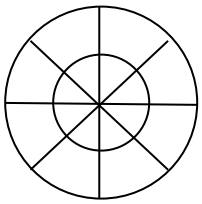
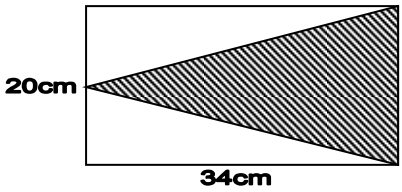
SECTION 2

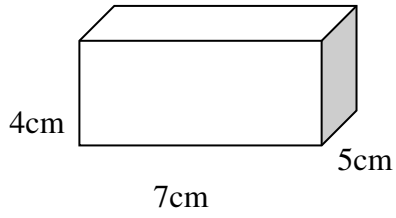
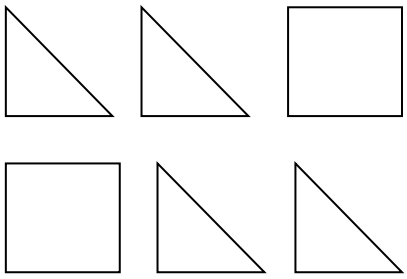
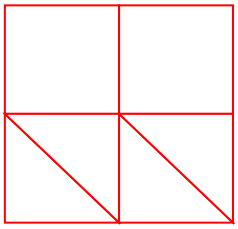
Each question is worth either 2 or 3 marks. Answer ALL questions. Show ALL working in the Working Column.

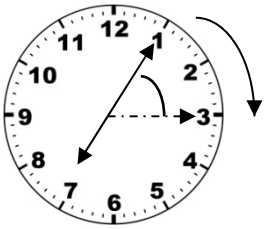
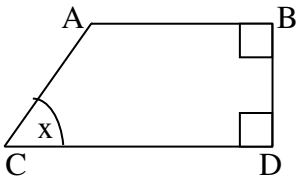
21	Solve: 448 ÷ 14 Answer _____(2)	448 ÷ 14 = **32**	
22	$4\frac{2}{5} - 2\frac{3}{10}$ Answer _____ (2)	$4\frac{2}{5} - 2\frac{3}{10}$ $2\frac{4 - 3}{10}$ $= \mathbf{2\frac{1}{10}}$	
23	If Sam drops water in a glass at the rate of 28 drips per minute. How many drops will be dropped into the glass after 3 minutes? Answer _____ (2)	1 minute = 28 drops 3 minutes = 28 x 3 = **84 drops**	
24	If $\frac{5}{8}$ of Ken's money is $65.00, how much money does Ken have in TOTAL? Answer _____(2)	$\frac{5}{8} = \$65$ $1 = \frac{65}{1} \times \frac{8}{5}$ = **$104**	
25	Maria spent 40% of her money on a dress 0.25 on food and saved the remainder. What fraction of her money did she save? Answer _____(2)	Dress + Food = 40% + 25% Left with = 100% - 65% = 35% $= \frac{35}{100}$ $= \mathbf{\frac{7}{20}}$	

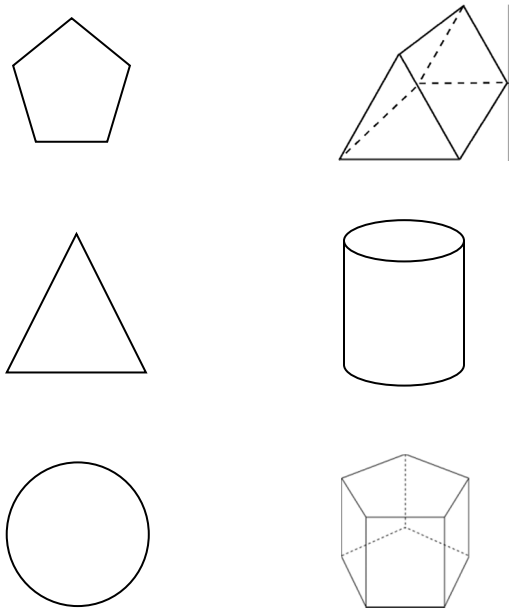
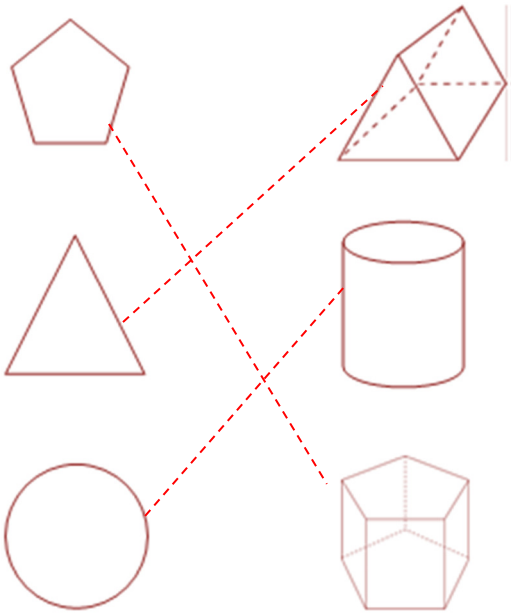
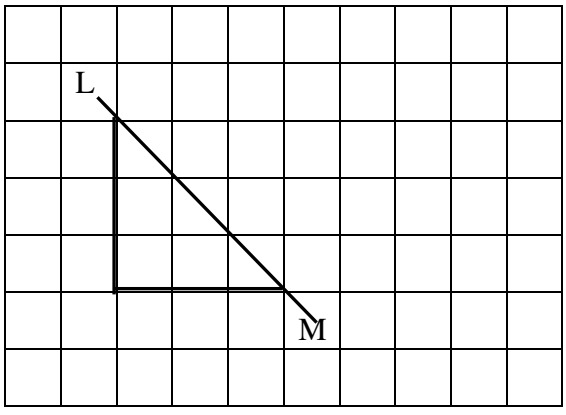
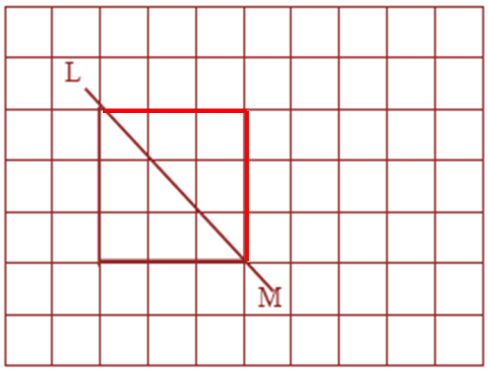
26	Josh was given an **equal** number of \$50, \$20, \$10 and \$5 bills. What is the least amount of money that Josh would have? Answer _____ (2)	Least amount of money (1 of each bill) = \$50 + \$20 + \$10 + \$5 = **\$85**	
27	Anna took a loan of \$18 000 from the bank for 3 years at 15% per year. (a) What is the Simple Interest Anna has to pay? Answer _____ (2) (b) How much money will Anna have to repay the bank at the end of 3 years? Answer _____ (1)	(a) Simple Interest = $\frac{P \times R \times T}{100}$ = $\frac{18\,000 \times 15 \times 3}{100}$ = **\$8100** (b) Amount = \$8100 + \$18 000 = **\$26 100**	
28	Shania left home at 6:30 am. She took $1\frac{1}{2}$ hours to reach to school. What time did Shania reach to school? Answer_____(2)	6 : 30 + 1 : 30 = **8 : 00am**	

29	The mass of 24 apples and some oranges is 6 kilograms. The mass of each apple is 85 grams and each orange weighs 60 grams. Calculate: a) The mass of the apples. Answer _____g(1) b) The number of oranges. Answer_____(2)	(a) 1 apple = 85g 24 apples = 85 x 24 = **2040g** (b) No. of oranges = (6000 – 2040) ÷ 60 = 3960 ÷ 60 = **66 oranges**	
30	 A piece of stick is 4.5cm long. If 8 pieces of sticks are placed side by side in a line, what would be the length? Answer _____ (2)	1 pc = 4.5cm 8 pcs = 4.5 x 8 = **36cm**	
31	 18cm L The length of the shape is **twice** its width. (a) Calculate the length of the shape. Answer _____cm (1) (b) Calculate the distance around the shape. Answer _____ cm (2)	(a) Length = 18 x 2 = **36cm** (b) Perimeter = 2L + 2W = (2 x 36) + (2 x 18) = 72 + 36 = **108cm**	

32	The wheel below has a radius of 14cm.  (a) What is the **diameter** of the wheel? Answer _____cm. (1) (b) Calculate the **circumference** of the wheel. Answer _____ cm. (2)	(a) Radius = 2D = 2 x 14 = **28cm** (b) Circumference = D x π = $\frac{28}{1}$ x $\frac{22}{7}$ = **88cm**	
33	 Calculate the area of the shaded triangle. Answer_____cm^2. (2)	Area of shaded △ = $\frac{B \times H}{2}$ = $\frac{20 \times 34}{2}$ = $\frac{340}{2}$ = **170cm^2**	

34	 (a) What will be the height of 7 blocks if one block is placed on top of the other? Answer _____cm (1) (b) If 5 blocks are placed in a straight line, what will be the length? Answer _____ cm (2)	(a) Height = 4cm 7 blocks = 4 x 7 = **28cm** (b) 1 length = 7cm 5 lengths = 7 x 5 = **35cm**	
35	 Jevon has two identical squares and 4 identical triangles as shown above. Arrange the shapes above to form a square. (3)		

36	The time shown on the clock below is 7:05 am.  Through how many degrees would the long hand move when it is 7:15 am? Answer_____(3)	1 space = 30^0 2 spaces = 30^0 x 2 = **60^0**	
37	 (a) Name the shape ABCD above. Answer _____ (1) (b) Which angle is an acute angle? Answer _____ (1)	(a) **Trapezium** (b) **x**	

38	Match the flat shape with a face on the solids.  (3)		
39	Draw the new position of the triangle after it is flipped about the line LM.  (3)	 	

40 The table below shows the money that Sonia saved for one month.

WEEK	AMOUNT SAVED
Week 1	$12.75
Week 2	$ 11.65
Week 3	$13.82
Week 4	$15.78

Calculate her mean savings per week
Answer _____ (3)

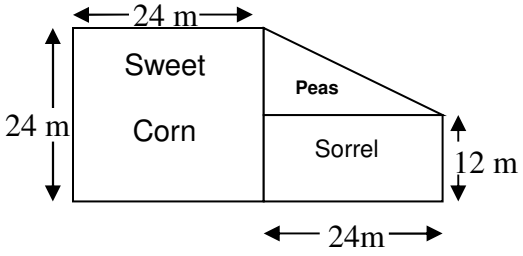
Mean
$= \frac{\$12.75 + \$11.65 + \$13.82 + \$15.78}{4}$

= $54 ÷ 4
= $ **13.50**

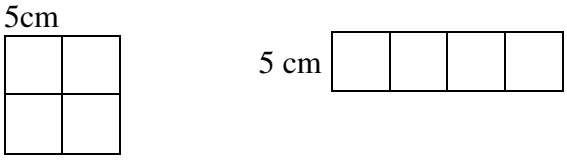
SECTION 3

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

41.	There are 250 workers at a bakery 40% of the workers are men and the rest are women. 10% of the men are equipment managers. (a) How many equipment managers are there? Answer:_____(2) (b) If each equipment manager is responsible for 6 machines, how many machines are there in the bakery? Answer:_____machines (1) (c) If HALF of the women at the bakery worked on the breadline, how many women worked on the breadline? Answer:_____women (2)	(a) Men = 40% x 250 = 0.4 x 250 = 100 men Equipment managers = 100 x 10% = 100 x 0.1 = **10 equipment managers** (b) Machines = 10 x 6 = **60 machines** (c) Women = 250 – 100 = 150 Breadline = 150 ÷ 2 = **75 women**	
42.	There are 135 vehicles in a parking lot. $33\frac{1}{3}$ % are trucks, $\frac{2}{5}$ of the remainder are vans and the rest of the vehicles are cars. Calculate: (a) how many trucks there are in the parking lot. Answer: _____trucks (1) (b) the number of vans parked there. Answer: _____vans (2) (c) the number of cars parked in the lot? Answer: _____cars (2)	Trucks = $33\frac{1}{3}\% \equiv \frac{1}{3}$ (a) Trucks = $\frac{1}{3} \times \frac{135}{1}$ = **45 trucks** (b) Vans = $\frac{2}{5}$ x (135 – 45) = $\frac{2}{5} \times \frac{90}{1}$ = **36 vans** (c) Cars = 135 – (45 + 36) = 135 – 81 = **54 cars**	

43.	A farmer planted peas, sorrel and sweet corn in a garden plot as shown below.  Use the information from the diagram to: (a) Calculate the area planted in sweet corn Answer:_____(1) (b) What area is planted in peas Answer:_____(2) (c) If ONLY the plots on which sweet corn and sorrel are planted are to be fenced, how many metres of wire fence are needed? Answer:_____(2)	(a) Area planted in sweet corn = S x S = 24 x 24 = **576m^2** (b) Area of triangle = $\frac{B \times H}{2}$ = $\frac{24 \times 12}{2}$ = $\frac{288}{2}$ = **144m^2** (c) Perimeter = 24+24+24+24+12+24+12 = **144 m**	

44. Robert and Risa used each of their four identical squares of side 5 cm to make their shapes as shown below.



Robert Risa

(a) What is the perimeter of Robert's shape?

Answer: _____cm (2)

(b) Whose shape has the greater perimeter?

Answer:_____(1)

(c) What is the difference in perimeter in the two shapes?

Answer: _____ (1)

(d) What is the difference in the AREA of both shapes?

Answer: _____ (1)

(a) Perimeter = 10 x 4
= **40cm**

(b) Perimeter of Risa's shape
= 5 x 10
= 50cm

Risa's shape has the greater perimeter (50cm)

(c) Difference = 50 – 40
= **10cm**

(d) Area of Robert's shape
= S x S
= 10 x 10
= $100cm^2$

Area of Risa's shape
= L x W
= 20 x 5
= $100cm^2$

Difference = $100cm^2 – 100cm^2$
= **$0cm^2$**

45.	A book has 200 pages. There are 8 chapters in the book. a) Calculate the mean number of pages in each chapter of the book. Answer _____ (1) b) The 5th chapter of the book begins on page 94 and ends on page 118. How many pages does chapter 5 have? Answer _____ (2) c) What fraction of the entire book is chapter 5? Answer _____ (2)	(a) Mean number of pages = 200 ÷ 8 = **25 pages** (b) 118 – 94 = 24 24 + 1 = **25 pages** (c) Chapter = $\frac{25}{200}$ $= \mathbf{\frac{1}{8}}$	

46.	The pictograph below shows the number of connections done by T&TEC in a new housing development. **No. of Connections Made** Sun Avenue  Honey Drive  Old Street  Moonlight Alley   = 30 connections a) How many MORE connections were done in Sun Avenue than in Honey Drive? Answer _____ (1) b) What is the PERCENTAGE of connections is on Old Street? Answer _____ (2) c) Calculate the MEAN number of connections per street in the new housing development. Answer _____ (2)	(a) 2 x 30 **= 60 more connections** (b) Old street = $\frac{3}{12}$ x $\frac{100}{1}$ **= 25%** (c) Total = 12 x 30 = 360 Mean = 360 ÷ 4 **= 90 connections**	
	END OF TEST 23		