

TEST

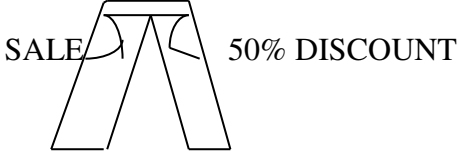
22

MATHEMATICS TEST 22

TIME- 75 MINUTES

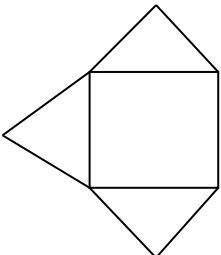
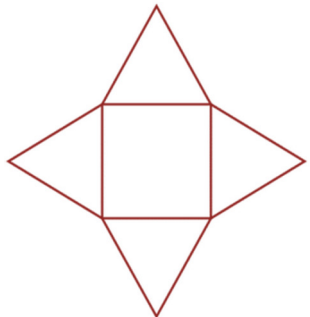
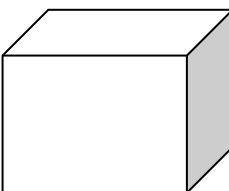
SECTION 1

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

No.	Items	Working Column	Marks
1.	In the number $25\dot{4}592$, write the value of the underlined digit. Answer _____	4000	
2.	Express 47% as a decimal. Answer _____	0.47	
3.	Write the number 20 as the sum of two prime numbers. Answer _____	3 + 17	
4.	Calculate the discount on the pair of jeans marked at \$150.00?  Answer _____	Discount = 50% x \$150 = \$150 ÷ 2 = \$75	

5.	<p>Peter has 5 toy cars, 6 motor bikes and 9 toy airplanes. What is the percentage of Peter's toy cars?</p> <p>Answer _____</p>	<p>Total Toys = $5 + 6 + 9$ $= 20$</p> <p>Toy cars = $\frac{5}{20} \times \frac{100}{1}$ $= 25\%$</p>	
6.	<p>Calculate $7.92 \div 6$</p> <p>Answer _____</p>	<p>$7.92 \div 6$ $= 1.32$</p>	
7.	<p>How many eighths are there in $2\frac{3}{4}$?</p> <p>Answer _____</p>	<p>$2\frac{3}{4} = \frac{\quad}{8}$ $\frac{11}{4} = \frac{\quad}{8}$</p> <p>$\square = 22$</p>	
8.	<p>A packet of sugar weighs 25 grams. How much will 9 similar packets weigh?</p> <p>Answer _____</p>	<p>1 pk = 25g 9 pks = 25×9 $= 225\text{g}$</p>	
9.	<p>Mary is 20 years old in 2014. In what year was she born?</p> <p>Answer _____</p>	<p>$2014 - 20 = 1994$</p>	

10.	<p>The area of a square is 36cm^2 . Calculate the perimeter of the square.</p> <p>Answer _____</p>	<p>Area = 36cm^2 Side = $\sqrt{36\text{cm}^2}$ = 6cm Perimeter = $S \times 4$ = 24cm</p>	
11.	<p>Aunt Mavis sells 5 mangoes for \$7.00. Calculate the cost of a mango.</p> <p>Answer _____</p>	<p>5 mangoes = \$7.00 1 mango = $\\$7.00 \div 5$ = $\\$1.40$</p>	
12.	<p>How much change should I get from \$100.00 if I spend \$58.92?</p> <p>Answer _____</p>	<p>Change = $\\$100.00 - \\58.92 = $\\$41.08$</p>	
13.	<p>Thomas has \$20.00 bills and \$5.00 bills in his wallet. What is the least number of \$5.00 bills Thomas can have if he has a total of \$270.00?</p> <p>Answer _____</p>	<p>$270 \div 20 = 13 \text{ r.}10$ Remainder = $\\$10 \div 5$ = $2 \text{ -- } \\$5.00 \text{ bills}$</p>	
14.	<p>Block A is 250g. If Block B is twice as heavy as Block A and Block C is twice as heavy as Block B, what is the weight of Block C?</p> <p>Answer _____</p>	<p>Block A = 250g Block B = 250×2 = 500g Block C = $500\text{g} \times 2$ = 1000g</p>	

15.	<p>The time on a clock is 12:45 am. If it is 12 minutes fast, what is the correct time?</p> <p>Answer _____</p>	$12:45 - 0:12 = 12:33$	
16.	<p>Complete the statement below.</p> <p>A square based pyramid contains _____ vertices.</p> <p>Answer _____</p>	<p style="text-align: center;">5</p>	
17.	<p>Complete the drawing to show the net of a square based pyramid.</p> 		
18.	<p>The volume of the cube shown below is 64cm^3. What is the length of each side?</p>  <p>Answer _____</p>	$\begin{aligned} \text{Volume} &= 64\text{cm}^3 \\ \text{Side} &= \sqrt[3]{\text{Volume}} \\ &= \sqrt[3]{64\text{cm}^3} \\ &= 4\text{cm} \end{aligned}$	

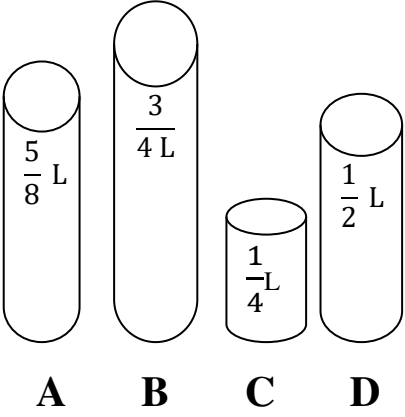
19.	<p>The heights of five boys are recorded below.</p> <table border="1" data-bbox="282 388 859 537"> <tr> <td>John</td> <td>Larry</td> <td>Mark</td> <td>Sam</td> <td>Allan</td> </tr> <tr> <td>140cm</td> <td>127cm</td> <td>125cm</td> <td>135cm</td> <td>129cm</td> </tr> </table> <p>If the boys stand in order of their heights starting with the shortest, who will be in the middle?</p> <p>Answer _____</p>	John	Larry	Mark	Sam	Allan	140cm	127cm	125cm	135cm	129cm	<p>125 127 129 135 140 ↓ Allan</p>	
John	Larry	Mark	Sam	Allan									
140cm	127cm	125cm	135cm	129cm									
20.	<p>A pie chart represents 3 flavours of ice-cream preferred by the children of Standard 4. Half of the students preferred chocolate and 25% preferred strawberry. If 12 children liked vanilla, how many children are in the class?</p> <p>Answer _____</p>	<p>Vanilla = $100\% - (50\% + 25\%)$ $= 100\% - 75\%$ $= 25\%$ $25\% = \frac{1}{4}$ $\frac{1}{4} = 12$ $1 = 12 \times 4$ $= 48$</p>											

SECTION 2

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

21.	<p>Subtract 3.72 from 5.1.</p> <p>Answer _____ (2)</p>	$\begin{array}{r} 5.10 - \\ \underline{3.72} \\ 1.38 \end{array}$	
22.	<p>A free hamper is given to every 10th customer to celebrate the 10th Anniversary of Charlene's grocery.</p> <p>(a) How many customers received a hamper if 272 customers entered the grocery? Answer _____ (1)</p> <p>(b) How many more customers must enter the grocery if another hamper is to be given away? Answer _____ (1)</p>	<p>(a) $272 \div 10 = 27 \text{ r.}2$</p> <p>27 customers received a hamper</p> <p>(b) Remainder = 2 Every 10th customer received a hamper, $\therefore 10 - 2 = 8$ 8 more customers must enter the grocery</p>	
23.	<p>Three bells begin to chime together. The first chimes every 6 minutes, the second every 5 minutes and the third every 3 minutes. After how many minutes will they chime together? Answer _____(2)</p>	<p>L.C.M of 6, 5, 3</p> <p>=30 minutes of half hour</p>	
24.	<p>A chef needs 85 carrot sticks. The carrot sticks come in bags of 12. How many bags of carrots must the chef buy? Answer _____(2)</p>	<p>$85 \div 12 = 7 \text{ r.}1$</p> <p>$\therefore$ 8 bags of carrot sticks must be bought</p>	

<p>25.</p>	<p>After filling 24 boxes with 12 pencils each, Larry had 8 pencils left.</p> <p>(a) How many pencils Larry have altogether?</p> <p>Answer _____ (2)</p> <p>(b) How many boxes could be filled if he puts 8 pencils in each box instead?</p> <p>Answer _____ (1)</p>	<p>(a) Larry = $(24 \times 12) + 8$ $= 288 + 8$ $= 296$</p> <p>(b) No. of boxes = $296 \div 8$ $= 37$</p>	
<p>26.</p>	<p>30% of Jaydon's money is \$42.00. How much is 50% of his money?</p> <p>Answer _____ (3)</p>	<p>$30\% = \frac{3}{10}$ $\frac{3}{10} = \\$42$ $1 = \frac{42}{1} \times \frac{10}{3}$ $= 140$ $50\% = 140 \div 2$ $= \\$70$</p>	
<p>27.</p>	<p>The product of 2.9 and 5.6 is</p> <p>Answer _____ (3)</p>	<p>2.9×5.6 $= 29 \times 56$ $174 +$ $\underline{1450}$ $1624 = 16.24$</p>	
<p>28.</p>	<p>Betty eats $\frac{1}{7}$ of a watermelon, and gives away $\frac{2}{3}$ of the remainder. What fraction of the watermelon does she have left?</p> <p>Answer _____ (3)</p>	<p>Eats = $\frac{1}{7}$ Remainder = $\frac{6}{7}$ Gives away = $\frac{2}{3} \times \frac{6}{7}$ $= \frac{4}{7}$ Fraction left = $1 - (\frac{1}{7} + \frac{4}{7})$ $= 1 - \frac{5}{7}$ $= \frac{2}{7}$</p>	

<p>29.</p>	 <p style="text-align: center;">A B C D</p> <p>(a) Using each container once, which TWO containers can Bob use to measure 1 litre of water?</p> <p>Answer _____ (1)</p> <p>(b) Lester fills the containers labeled A and D with water. What is the volume of water in the 2 containers?</p> <p>Answer _____ (1)</p>	<p>(a) $B + C = \frac{3}{4} + \frac{1}{4}$ $= 1$</p> <p>(b) Volume of water $= \frac{5}{8} + \frac{1}{2}$ $= \frac{5 + 4}{8}$ $= \frac{9}{8}$ $= 1\frac{1}{8}$</p>	
<p>30.</p>	<p>Crystal begins private tuition at 10:30 am. She charges \$15.00 per hour and earns \$75.00.</p> <p>(a) How many hours does she work?</p> <p>Answer _____ (1)</p> <p>(b) At what time does she finish the private tuition?</p> <p>Answer _____ (1)</p>	<p>(a) Fee = \$15 Earns = \$75 No. of hours = $\\$75 \div \\15 = 5 hours</p> <p>(b) 10:30 + 5:00 = 3:30pm</p>	

31.	<p>The perimeter of a rectangle is 30cm and the breadth is 5cm. Calculate its length.</p> <p>Answer _____ (2)</p>	$\begin{aligned} \text{Length} &= (\text{Perimeter} - 2W) \div 2 \\ &= (30 - 10) \div 2 \\ &= 20 \div 2 \\ &= \mathbf{10\text{cm}} \end{aligned}$	
32.	<p>A mechanic has to be at work by 9:00 a.m. It takes him 25 minutes to be ready for work and 45 minutes to travel to work. What is the LATEST time he can get up to be at work on time?</p> <p>Answer _____ (3)</p>	$\begin{aligned} \text{Latest time} &= 9:00 - (25 + 45) \\ &= 9:00 - 0:70 \\ &= 9:00 - 1:10 \\ &= \mathbf{7:50\text{am}} \end{aligned}$	
33.	<p>Jill buys 24 books at \$1.50 each. She sells them at 2 books for \$5.00. How much profit does she make?</p> <p>Answer _____ (3)</p>	$\begin{aligned} \text{C.P} &= 24 \times \$1.50 \\ &= \$36 \\ \text{S.P} &= (24 \div 2) \times \$5.00 \\ &= 12 \times \$5 \\ &= \$60 \\ \text{Profit} &= \text{S.P} - \text{C.P} \\ &= \$60 - \$36 \\ &= \mathbf{\$ 24} \end{aligned}$	
34.	<p>\$2800.00 is shared among three brothers Sam, Joe and Billy such that Joe receives \$200.00 more than Sam and Billy receives \$300.00 more than Joe. How much money does each boy receive?</p> <p>Answer : Sam _____ Joe _____ Billy _____</p> <p>(3)</p>	$\begin{aligned} \text{Sam} &= X \\ \text{Joe} &= X + \$200 \\ \text{Billy} &= (X + \$200) + 300 \\ \text{Billy} &= X + \$500 \\ \therefore \\ X + X + 200 + X + 500 &= 2800 \\ 3X + 700 &= 2800 \\ 3X &= 2800 - 700 \\ 3X &= \$2100 \\ X &= \$700 \\ \\ \text{Sam} &= \mathbf{\$700} \\ \text{Joe} &= \mathbf{\$900} (\$700 + \$200) \\ \text{Billy} &= \mathbf{\$1200} (\$700 + \$500) \end{aligned}$	

35.

Patrick rides 4 kilometres in 30 minutes.
How far does he ride in 75 minutes?

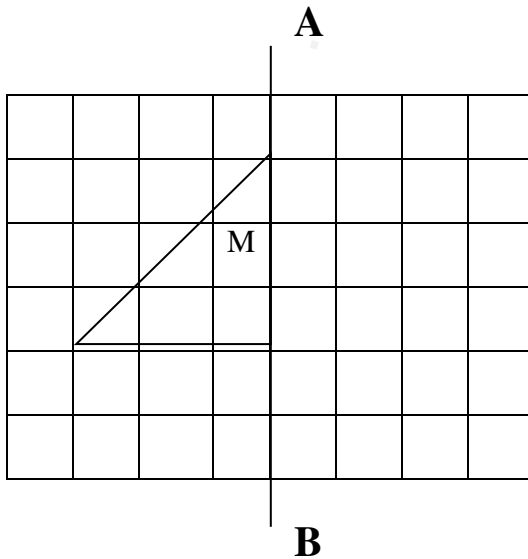
Answer _____ (3)

$$30 \text{ mins} = 4 \text{ km}$$

$$1 \text{ min} = \frac{4}{30}$$

$$75 \text{ mins} = \frac{4}{30} \times \frac{75}{1}$$
$$= \mathbf{10 \text{ km}}$$

36.

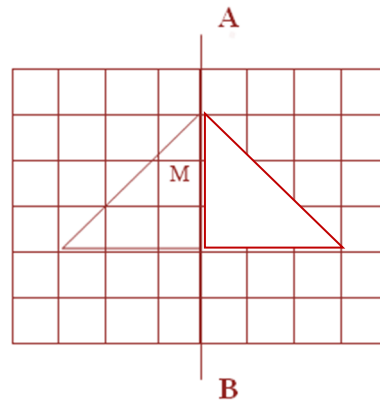


(a) Draw the image of Triangle M using the line AB as the mirror line.

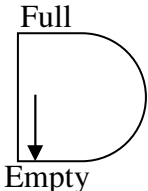
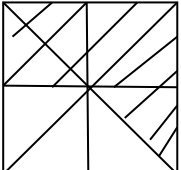
(1)

(b) What is the name of the triangle formed by the triangle M and its image?

Answer _____ (1)



(b) **Isosceles Triangle**

<p>37.</p>	<p>Daddy's gas tank is empty when he drives into the gas station. He fills his tank to $\frac{3}{4}$. Through what angle does his gas meter move?</p>  <p>Answer _____ (2)</p>	$\frac{3}{4} \times \frac{180}{1} = 135^\circ$	
<p>38.</p>	<p>The area of the shaded part of the square shown is 40cm^2. Calculate the length of one side of the square?</p>  <p>Answer _____ (3)</p>	$\frac{5}{8} = 40$ $1 = \frac{40}{1} \times \frac{8}{5}$ $\text{Area} = 64\text{cm}^2$ $\text{Side} = \sqrt{64\text{cm}^2}$ $= 8\text{cm}$	

39.



(a) The long hand on the clock above turns through 270° . To which number will it point?

Answer _____
(1)

(b) The hour hand moves from 2 to 4. Through what angle does it turn?

Answer _____ (2)

(a) $270^\circ \div 30^\circ = 9$ spaces
 \therefore **The long hand will now point to 7**

(b) $2 \rightarrow 4 = 2$ spaces
1 space = 30° ($360^\circ \div 12$)
2 spaces = $30^\circ \times 2$
= 60°

40.

The incomplete pictograph below shows the number of cars belonging to four boys.



Represents 7 cars

Harry



Jerry

Sammy



Gray



Altogether they have 84 cars. Complete the pictograph to show the number of cars belonging to Jerry.

(2)



= 7 cars

$$\begin{aligned} \text{Jerry} &= 84 - (9 \times 7) \\ &= 84 - 63 \\ &= 21 \end{aligned}$$

\therefore



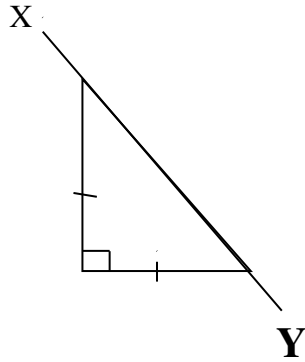
SECTION 3

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

No.	Items	Working Column	Marks
41.	<p>Ryan gave $\frac{3}{8}$ of his money to his sister, $\frac{1}{2}$ of the remainder to his brother and kept \$300.00 for himself.</p> <p>(a) What fraction of his money did Ryan give away? Answer _____ (2)</p> <p>(b) How much money did he have at first? Answer _____ (2)</p> <p>(c) How much money did he give to his brother? Answer _____ (1)</p>	<p>(a) Sister = $\frac{3}{8}$ Remainder = $\frac{5}{8}$ Brother = $\frac{1}{2} \times \frac{5}{8}$ $= \frac{5}{16}$ Total given $\frac{3}{8} + \frac{5}{16}$ $= \frac{11}{16}$</p> <p>(b) $1 - \frac{11}{16} = \frac{5}{16}$ $\frac{5}{16} = \\$300$ $1 = \frac{300}{1} \times \frac{16}{5}$ $= \\$960$</p> <p>(c) Brother = $\frac{5}{16} \times \frac{960}{1}$ $= \\$300$</p>	
42.	<p>Two athletes walked around a circular field. The distance around the field is 0.75km.</p> <p>(a) Anil walks 3 times around the field. What distance does he cover ? Answer _____ km (2)</p> <p>(b) How many times must Peter walk around the field if he wants to cover a distance of 9km? Answer _____ times (2)</p> <p>(c) Calculate the total distance the two athletes walked. Answer _____ (1)</p>	<p>(a) Anil = 3×0.75 $= 2.25\text{km}$</p> <p>(b) $9 \div 0.75 = 12 \text{ times}$</p> <p>(c) Total Distance $= 9 + 2.25$ $= 11.25\text{km}$</p>	

43.	<p>Kayla buys a refrigerator marked at \$3000.00 and pays 15% VAT. She gets a 10% discount when she pays cash.</p> <p>Calculate:</p> <p>(a) the price of the refrigerator before the discount.</p> <p>Answer \$ _____ (3)</p> <p>(b) the discount on the refrigerator.</p> <p>Answer \$ _____ (1)</p> <p>(c) how much Kayla pays for the refrigerator?</p> <p>Answer \$ _____ (1)</p>	<p>(a) Before Discount $= 115\% \times \\$3000$ $= \frac{115}{100} \times \frac{3000}{1}$ $= \\$3450$</p> <p>(b) Discount $= 10\% \times \\$3450$ $= \\$345$</p> <p>(c) Paid = \$3450 - \$345 $= \\$3105$</p>	
44.	<p>An aquarium holds 50L of water when full. The aquarium has a width of 50cm and a depth of 20cm.</p> <p>Calculate:</p> <p>(a) the length of the aquarium (1 litre = 1000cm³)</p> <p>Answer _____ (2)</p> <p>(b) the volume of water in cubic centimeters when the tank is $\frac{2}{5}$ full.</p> <p>Answer _____ (1)</p> <p>(c) If the aquarium is to be emptied by using a jug that holds 500ml, how many times will the jug have to be filled and emptied?</p> <p>Answer _____ (2)</p>	<p>(a) Length = $\frac{\text{Volume}}{W \times H}$ $= \frac{50\,000}{50 \times 20}$ $= 50\text{cm}$</p> <p>(b) Volume at $\frac{2}{5}$ full $= \frac{2}{5} \times \frac{50\,000}{1}$ $= 20\,000\text{ cm}^3$</p> <p>(c) $50\,000 \div 500$ $= 100\text{ times}$</p>	

45.



(a) Name the type of triangle shown above.

Answer _____ (1)

(b) Draw ONE line of symmetry on the shape.

Answer _____ (1)

(c) Name the complete shape formed if the triangle is flipped along XY.

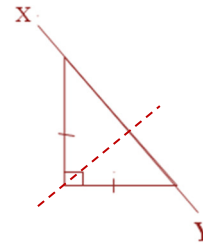
Answer _____ (1)

(d) Draw the lines of symmetry on the new shape formed.

Answer _____ (2)

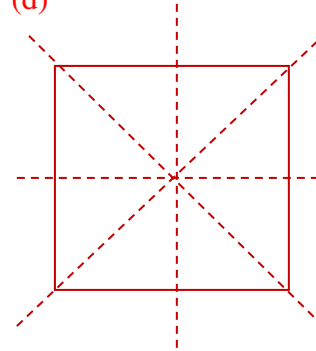
(a) **Right-angled Isosceles Triangle**

(b)



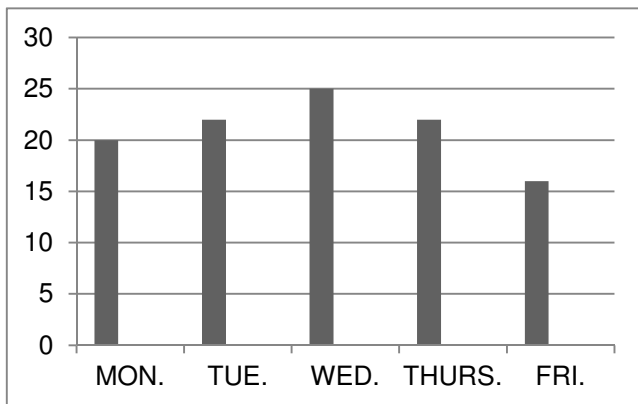
(c) **Square**

(d)



46.

The graph below shows the attendance during one week for a Standard Five class of 25 children at New Private School.



(a) **Wednesday**

(b) **Tuesday & Thursday**

(c) Average

$$= (20+22+25+22+16) \div 5$$

$$= 105 \div 5$$

$$= \mathbf{21 \text{ students}}$$

(a) On which day are all the children present?

Answer _____ (1)

(b) On which days were the same number of students present?

Answer _____ (1)

(c) What is the average attendance for the week?

Answer _____ (3)

End of Test 22

