

TEST

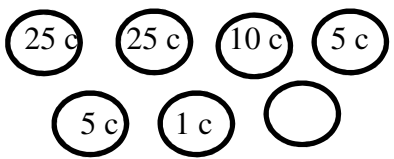
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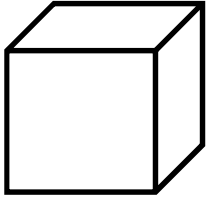
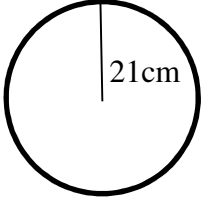
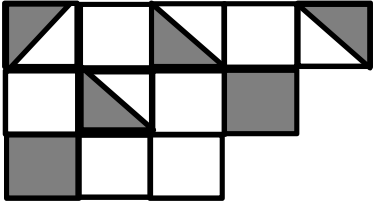
MATHEMATICS TEST 14



TIME- 75 MINUTES

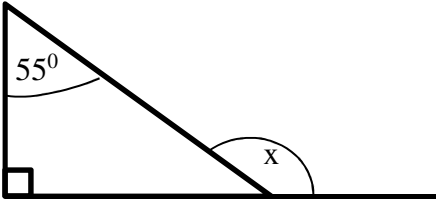
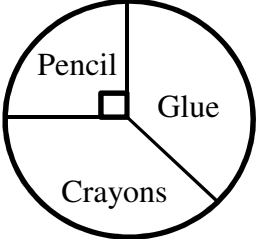
SECTION 1

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

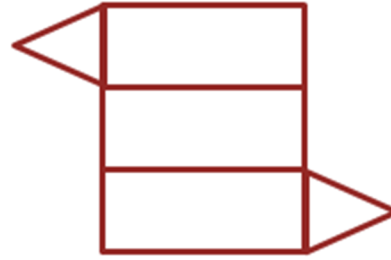
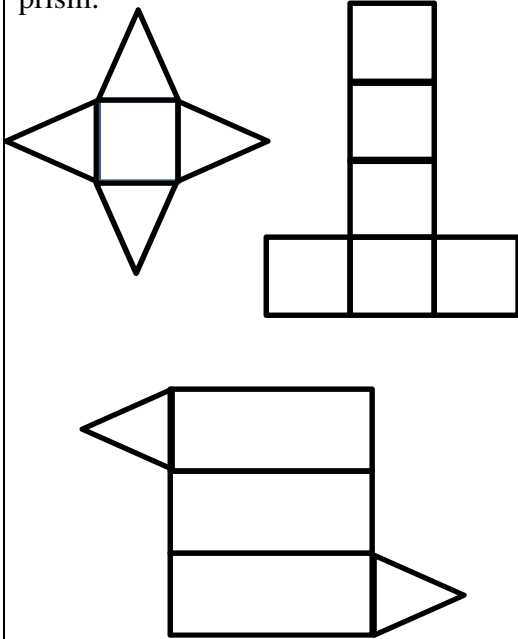
No.	Items	Working Column	Marks
1.	<p>Samuel bought a new car for five hundred and twenty seven thousand, three hundred and eighty two dollars. Express this amount in figures.</p> <p>Answer: \$_____</p>	<p>\$527382</p>	
2.	<p>Write $\frac{58}{100}$ as a decimal.</p> <p>Answer:_____</p>	<p>0.58</p>	
3.	<p>Write the numeral which represents $(8 \times 100\,000) + (6 \times 1000) + (3 \times 100) + (6 \times 10) + (0 \times 1) =$</p> <p>Answer:_____</p>	<p>806 360</p>	
4.	<p>Approximate \$87 645.00 to nearest thousand dollars.</p> <p>Answer: \$_____</p>	<p>\$88 000</p>	
5.	<p>The coins below total to a value of 76 cents. What is the value of the unmarked coin?</p> <div style="text-align: center;">  </div> <p>Answer:_____cents</p>	<p>$25 + 25 + 10 + 5 + 5 + 1 = 71c$ $76c - 71c = 5c$</p>	<p>249</p>

6.	<p>How many edges does the 3 dimensional figure below have?</p>  <p>Answer: _____ edges</p>	<p>12 edges</p>	
7.	<p>If the radius of a circle is 21cm, what is the circumference?</p>  <p>Answer: _____ cm</p>	<p>Radius = 21cm Diameter = 42cm</p> <p>Circumference = D x π $= \frac{42}{1} \times \frac{22}{7}$ = 132cm</p>	
8.	<p>The East Side cricket team won 15 games, drew 3 and lost 2 games. What percent of the games did the team win?</p> <p>Answer: _____</p>	<p>Total games = 15 + 3 + 2 = 20games</p> <p>Win = $\frac{15}{20} \times \frac{100}{1}$ = 75%</p>	
9.	<p>What fraction of the figure below is NOT shaded?</p>  <p>Answer: _____</p>	<p>Total = 12 Shaded = 4 Not Shaded = 12 - 4 = 8</p> <p>$\frac{8}{12} = \frac{2}{3}$</p>	

10.	<p>What is the length of the pencil below?</p>  <p>Answer: _____ cm</p>	<p>10 cm</p>	
11.	<p>How many millilitres of milk can fill the 4 litre bottle below?</p>  <p>Answer: _____ ml</p>	<p>4 L = 4000 ml</p>	
12.	<p>Henry walks 539 metres to get to the grocery store. Nicholas walks 0.932 kilometres. Who walks the longer distance to get to the grocery store?</p> <p>Answer: _____</p>	<p>0.932 km = 932 m</p> <p>932m > 539m ∴ Nicholas walked the longer distance</p>	
13.	<p>How many oranges did Mr. Lal sell, if he sold 15 bags, with each bag containing 250 oranges?</p> <p>Answer: _____ oranges</p>	<p>15 x 250 = 3750 oranges</p>	

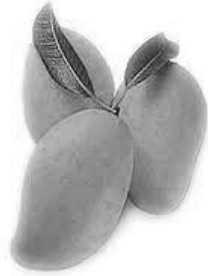
14.	<p>What is the value of the angle labelled x?</p>  <p>Answer: _____</p>	$180^{\circ} - (90^{\circ} + 55^{\circ})$ $= 180^{\circ} - 145^{\circ}$ $= 35^{\circ}$ $x^{\circ} = 180^{\circ} - 35^{\circ}$ $= 145^{\circ}$	
15.	 <p>The pie chart above shows the items in a container. The total mass of the items in the container is 24kg.</p> <p>Calculate the mass of the pencils in the container?</p> <p>Answer: _____ kg</p>	$\text{Pencils} = \frac{1}{4} \times \frac{24}{1}$ $= 6 \text{ kg}$	
16.	<p>The long hand on a clock is pointing to 7. It makes a 90° turn CLOCKWISE. To what number will the long hand now be pointing?</p> <p>Answer: _____</p>	$90^{\circ} = 3 \text{ spaces}$ $7 + 3 = 10$	

17. Circle the net that forms a triangular prism.



Answer: _____

18. Mangoes are sold at \$5.25 per kg

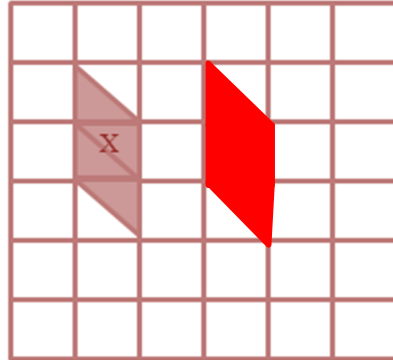
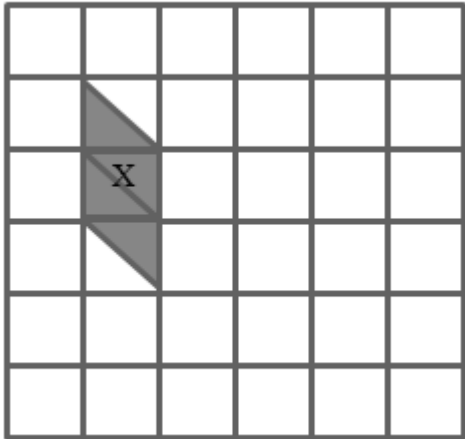


How much did Sayad pay if he bought 8 kg of mangoes?

Answer: \$ _____

$$\begin{aligned} 1\text{kg} &= \$5.25 \\ 8\text{kg} &= \$5.25 \times 8 \\ &= \$42 \end{aligned}$$

19.



The object labelled X moves in a straight line 2 units to the right. Draw its new position on the grid.

20.

The following are the scores from 5 batsmen on a cricket team.

23 45 38 45 26

What is the modal score?

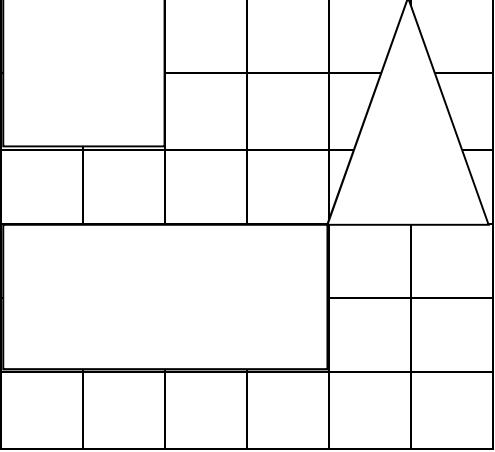
Answer: _____

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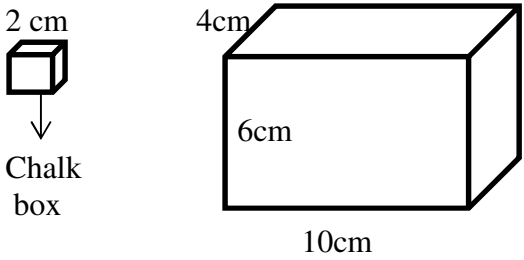

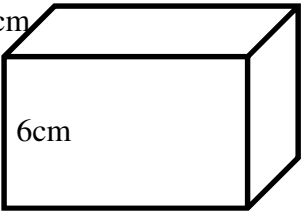
SECTION 2


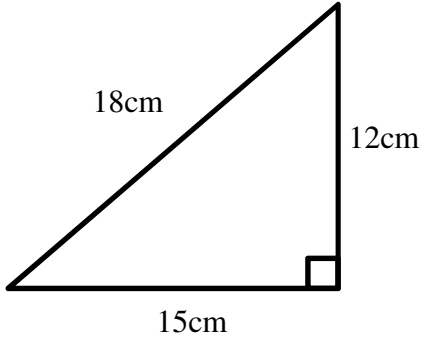
Each question is worth either 2 or 3 marks. Answer ALL questions. Show ALL working in the Working Column.


No.	Items	Working Column	Marks
21.	<p>What is the product of $6\frac{3}{4}$ and $3\frac{2}{3}$?</p> <p>Answer: _____ (2)</p>	$6\frac{3}{4} \times 3\frac{2}{3}$ $= \frac{27}{4} \times \frac{11}{3}$ $= \frac{99}{4}$ $= 24\frac{3}{4}$	
22.	<p>It takes 5.4 metres of cloth to make one dress and 2.6 metres of cloth to make a jacket.</p> <p>How many metres of cloth are needed to make 4 dresses and 2 jackets?</p> <p>Answer: _____ m (3)</p>	$1 \text{ dress} = 5.4\text{m}$ $4 \text{ dresses} = 5.4 \times 4$ $= 21.6\text{m}$ $1 \text{ jacket} = 2.6\text{m}$ $2 \text{ jackets} = 2.6 \times 2$ $= 5.2\text{m}$ $4 \text{ dresses} + 2 \text{ jackets} = 21.6 + 5.2$ $= 26.8\text{m}$	
23.	<p>There are 756 lettuce plants in a garden. If each row has 42 lettuce plants, how many rows of lettuce plants are there?</p> <p>Answer: _____ (2)</p>	$756 \div 42$ $= 18 \text{ rows}$	
24.	<p>A Standard 5 class has 30 students. There are 6 more boys than girls. What percentage of the class is boys?</p> <p>Answer: _____ (3)</p>	$30 - 6 = 24$ $24 \div 2 = 12$ $\text{Girls} = 12$ $\text{Boys} = 12 + 6$ $= 18$ $\text{Percentage} = \frac{18}{30} \times \frac{100}{1}$ $= 60\%$	
		255	


25.	<p>It takes 75 minutes for pupils in a class to complete a Mathematics practice test. Tests are given on Monday, Wednesday and Friday.</p> <p>How long, in HOURS, does the class spend on practice tests in a week?</p> <p>Answer: _____ hours (2)</p>	$75 \times 3 = 225 \text{ minutes}$ $225 \div 60$ $= 3\frac{3}{4} \text{ hrs}$	
26.	 <p>Each block measures 1cm by 1cm.</p> <p>a) Which of the shapes above has the GREATEST area?</p> <p>Answer: _____ (1)</p> <p>b) What is the area of the triangle?</p> <p>Answer: _____ units² (2)</p>	<p>(a) Area of square = 2×2 = 4cm^2</p> <p>Area of triangle = $\frac{B \times H}{2}$ = $\frac{2 \times 3}{2}$ = 3cm^2</p> <p>Area of rectangle = 4×2 = 8cm^2</p> <p>\therefore Rectangle has the greatest area</p> <p>(b) Area of triangle = 3cm^2</p>	

27.	<p>Calculate $5^2 + 8^2 =$</p> <p>Answer: _____ (2)</p>	$5^2 + 8^2 = 25 + 64$ $= 89$	
28.	<p>A spoon is $\frac{1}{3}$ the weight of a plate. If the plate weighs 360g, how much would 15 spoons weigh?</p> <p>Give your answer in kilograms.</p> <p>Answer: _____ kg (3)</p>	$1 \text{ spoon} = \frac{1}{3} \times \frac{360}{1}$ $= 120\text{g}$ $15 \text{ spoons} = 120\text{g} \times 15$ $= 1800\text{g} \div 1000$ $= \mathbf{1.8\text{kg}}$	
29.	<p>A book has 360 pages. Peter takes 15 minutes to read 5 pages. How many HOURS will it take him to finish reading the book if he reads it continuously?</p> <p>Answer: _____ hours (3)</p>	$5 \text{ pages} = 15 \text{ minutes}$ $1 \text{ page} = 15 \div 5$ $= 3 \text{ minutes}$ $360 \text{ pages} = 360 \times 3$ $= 1080 \text{ minutes}$ $= 1080 \div 60$ $= \mathbf{18 \text{ hours}}$	

<p>30.</p>	 <p>The mat above is a semi-circle with a diameter of 1.4 metres. It fits EXACTLY on the outside of a rectangular corridor of length 8 metres.</p> <p>What is the perimeter of the combined shape formed?</p> <p>Answer: _____ m (3)</p>	$\begin{aligned} \text{Circumference} &= D \times \pi \\ &= \frac{1.4}{1} \times \frac{22}{7} \\ &= 4.4\text{m} \\ \text{Semi-Circle} &= \frac{1}{2} \times \frac{4.4}{1} \\ &= 2.2\text{m} \end{aligned}$ <p>Perimeter of combined shape $= 8 + 8 + 1.4 + 2.2$ $= \mathbf{19.6\text{m}}$</p>
<p>31.</p>	 <p>2 cm  ↓ Chalk box</p> <p>4cm  6cm 10cm</p> <p>Calculate how many of the cube shaped chalk boxes will be able to fill the larger box.</p> <p>Answer: _____ (3)</p>	$\begin{aligned} \text{Number of boxes} &= \frac{10 \times 4 \times 6}{2 \times 2 \times 2} \\ &= \mathbf{30 \text{ chalk boxes}} \end{aligned}$
<p>32.</p>	<p>Daren spent $\frac{3}{10}$ of his allowance on a new shoe and $\frac{1}{5}$ on some school supplies. What fraction of his money is left?</p> <p>Answer: _____ (2)</p>	$\begin{aligned} \text{Fraction left} &= 1 - \left(\frac{1}{5} + \frac{3}{10}\right) \\ &= 1 - \frac{5}{10} \\ &= \frac{5}{10} \\ &= \mathbf{\frac{1}{2} \text{ of his money is left}} \end{aligned}$

33.	<p>Hema ran 5 laps around a circular track and covered a distance of 880m. What is the diameter of the track?</p> <p>Answer: _____ m (3)</p>	$880 \div 5 = 176\text{m}$ $\text{Circumference} = 176\text{m}$ $\text{Diameter} = C \div \pi$ $= 176 \div \frac{22}{7}$ $= 176 \times \frac{7}{22}$ $= 56\text{m}$	
34.	 <p>How many grams must be added to B to make the scale balance?</p> <p>Answer: _____ g (2)</p>	$2.5\text{kg} = 2500\text{g}$ $2500\text{g} - 2000\text{g} = 500\text{g}$	
35.	 <p>a) What is the perimeter of the shape above?</p> <p>Answer: _____ cm (1)</p> <p>b) What is the type of triangle shown above?</p> <p>Answer: _____ (1)</p>	<p>(a) Perimeter of Triangle = $15 + 12 + 18$ = 45cm</p> <p>(b) Right Angled Triangle</p>	

<p>36.</p>	 <p>A computer is marked at \$3400. There is an additional 15% VAT.</p> <p>a) How much VAT is to be paid on the computer?</p> <p>Answer: _____ (1)</p> <p>b) What would be the total cost for 2 such computers?</p> <p>Answer: _____ (2)</p>	<p>(a) $VAT = 15\% \times 3400$ $= \\$510$</p> <p>(b) $2 \text{ computers} = 2 \times (3400 + 510)$ $= 2 \times \\$3910$ $= \\$7820$</p>	
<p>37.</p>	<p>A bucket which holds 6 litres (6000cm^3) of water when emptied into a fish tank, fills it. The fish tank has a length of 30cm and a width of 20 cm.</p> <p>What is the height of the tank?</p> <p>Answer: _____ (3)</p>	<p>$H = \frac{\text{Volume}}{L \times W}$</p> <p>$= \frac{6000}{30 \times 20}$</p> <p>$= 10\text{cm}$</p>	

<p>38.</p>	<p>The minute hand on the clock below moved from the number 2 to the number 8 in a clockwise direction.</p> <p>Through how many degrees did the minute hand move?</p>  <p>Answer: _____(2)</p>	$ \begin{aligned} 2 \rightarrow 8 &= 6 \text{ spaces} \\ 1 \text{ space} &= 30^{\circ} \\ &= 30^{\circ} \times 6 \\ &= \mathbf{180^{\circ}} \end{aligned} $	
<p>39.</p>	<p>A car was bought for \$30,000 and was sold for a profit of 25%. How much was the car sold for?</p> <p>Answer: _____(2)</p>	$ \begin{aligned} \text{S. P} &= 100\% + 25\% \\ &= 125\% \\ &= 125\% \times 30\,000 \\ &= 1.25 \times 30\,000 \\ &= \mathbf{\$37\,500} \end{aligned} $	

40. The water tank below is $\frac{2}{7}$ filled.



If the tank has 280 litres at present, how many litres of water will it hold when it is completely filled?

Answer: _____ litres (2)

$$\begin{aligned}\frac{2}{7} &= 280\text{L} \\ 1 &= 280 \times \frac{7}{2} \\ &= \mathbf{980\text{ L}}\end{aligned}$$

SECTION 3

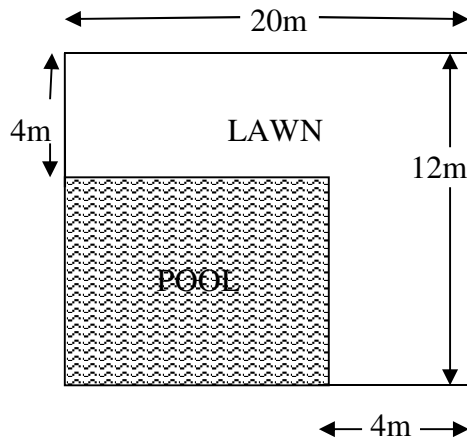
Each question is worth 5 marks. Answer ALL questions. Show ALL working in the Working Column.

No.	Items	Working Column	Marks
41.	<p>At Strive Primary School, 15% of the 600 persons present at its Christmas Concert were children.</p> <p>Adults were charged \$12.00 admission while children were charged half price.</p> <p>(a) How many adults attended the concert? Answer: _____ (1)</p> <p>(b) If every fifth child entering was given a windmill, how many windmills were given away at the concert? Answer: _____ (2)</p> <p>(c) How much money was paid in total by adults and children? Answer: _____ (2)</p>	<p>(a) If 15% = children, then Adults = 85% x 600 = 510 adults</p> <p>(b) 600 – 510 = 90 children 90 ÷ 5 = 18 windmills</p> <p>(c) Adults = 510 x \$12 = \$6120</p> <p>Children = 90 x \$6 = \$ 540</p> <p>Total paid = \$6120 + \$540 = \$ 6660</p>	

<p>42.</p>	<p>The first leg of a relay race was run in 43.7 seconds, the second leg in 42.8 seconds, the third leg in 44.9 seconds and the last leg in 42.6 seconds.</p> <p>(a) Which leg of the race was run in the fastest time?</p> <p>Answer: _____ (1)</p> <p>(b) Which leg of the race was run in the slowest time?</p> <p>Answer: _____ (2)</p> <p>(c) How much faster was the second leg than the first leg?</p> <p>Answer: _____ (1)</p> <p>(d) How long was the ENTIRE relay race?</p> <p>Answer: _____ (2)</p>	<p>(a) Last Leg fastest (Least Time)</p> <p>(b) Third Leg (Longest Time)</p> <p>(c) $43.7 - 42.8 = \mathbf{0.9 \text{ seconds faster}}$</p> <p>(d) Entire Relay $= 43.7 + 42.8 + 44.9 + 42.6$ $= \mathbf{174 \text{ seconds or}}$ $\mathbf{2 \text{ minutes } 54 \text{ seconds}}$</p>	
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<p>43.</p>	<p>Melissa's bedroom is 6m long and 4m wide. It is to be covered with square tiles of side 20cm.</p> <p>(a) How many tiles are needed?</p> <p>Answer: _____ (2)</p> <p>(b) If each tile costs \$7.50, what is the cost to tile the bedroom?</p> <p>Answer: _____ (2)</p> <p>(c) If Melissa was given a 10% discount, how much does she pay?</p> <p>Answer: _____ (1)</p>	<p>(a) Tiles needed = $\frac{600 \times 400}{20 \times 20}$ = 600 tiles</p> <p>(b) 1 tile = \$7.50 600 tiles = 7.50×600 = \$4500</p> <p>(c) Discount = 10% Paid = $90\% \times \\$4500$ = \$4050</p>	
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44. The diagram below shows a pool and lawn area of Elijah's yard.



- (a) Calculate the area of the yard.

Answer: _____ m² (1)

- (b) What is the area of the pool?

Answer: _____ m² (1)

- (c) What is the area of the lawn?

Answer: _____ m² (1)

- (d) If the pool was 5m deep, calculate the volume of the pool when full.

Answer: _____ m³ (2)

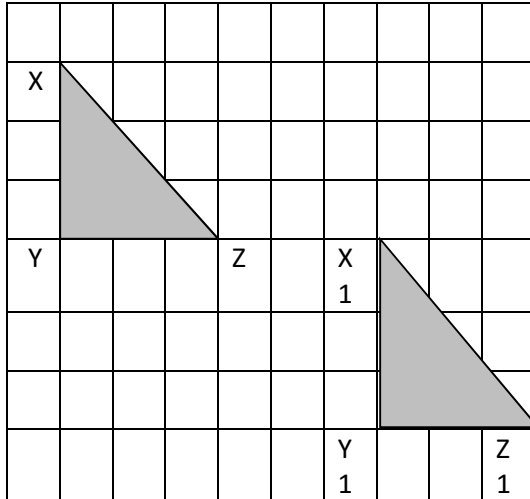
$$\begin{aligned} \text{(a) Area of yard} &= L \times W \\ &= 20 \times 12 \\ &= 240\text{m}^2 \end{aligned}$$

$$\begin{aligned} \text{(b) Area of pool} &= 16 \times 8 \\ &= 128\text{m}^2 \end{aligned}$$

$$\begin{aligned} \text{(c) Area of lawn} &= 240\text{m}^2 - 128\text{m}^2 \\ &= 112\text{m}^2 \end{aligned}$$

$$\begin{aligned} \text{(d) Volume of pool} &= L \times W \times H \\ &= 16 \times 8 \times 5 \\ &= 640\text{m}^3 \end{aligned}$$

45. The triangle XYZ has moved to a new position at X1, Y1, Z1.



- (a) Name the type of movement shown.

Answer: _____(1)

- (b) Describe the movement FULLY.

Answer: _____ (2)

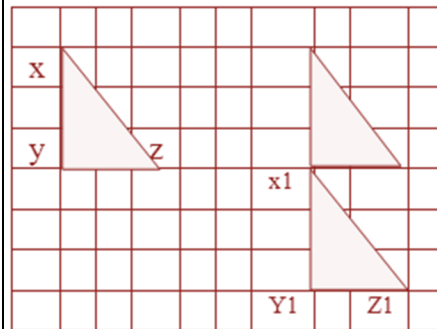
- (c) Draw the new position of triangle X1, Y1, Z1 if it moves THREE units upward.

(2)

- (a) Slide or Translation

- (b) Slide 6 units right and 3 units down

- (c)



<p>46.</p>	<p>The MEAN score of six basketball players is 35. Three of the scores are 45, 40 and 50.</p> <p>a) What is the total of the six scores?</p> <p>Answer: _____(1)</p> <p>b) The other three scores are the same. Calculate the value of each score.</p> <p>Answer: _____(2)</p> <p>c) A seventh player's score is added, making the new mean 36. What was the seventh player's score?</p> <p>Answer _____(2)</p>	<p>(a) Total = 35×6 = 210</p> <p>(b) $210 - (45 + 40 + 50)$ $210 - 135$ $= 75 \div 3$ = 25</p> <p>(c) $36 \times 7 = 252$ Last score = $252 - 210$ = 42</p>	
END OF TEST 14			