

T - HT/AB
E - DH
C - AT/MB
H - JG/AB
N - EW/KS
O - KC/DH
L - CF/KP
G - GM
Y - MK

Solutions

NAME: _____

CLASS: 7MTH_____

MARK: ____/66

CHERRYBROOK TECHNOLOGY HIGH SCHOOL



2016

YEAR 7

Yearly Examination

Time allowed: 45 minutes

THERE IS NO READING TIME

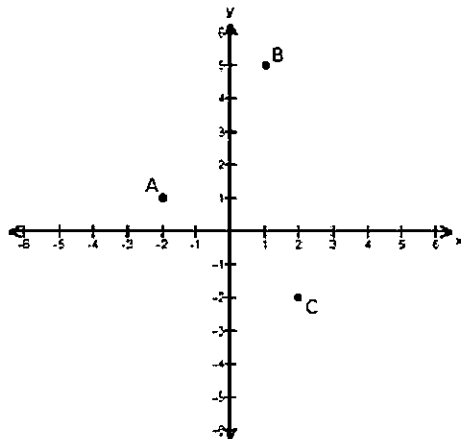
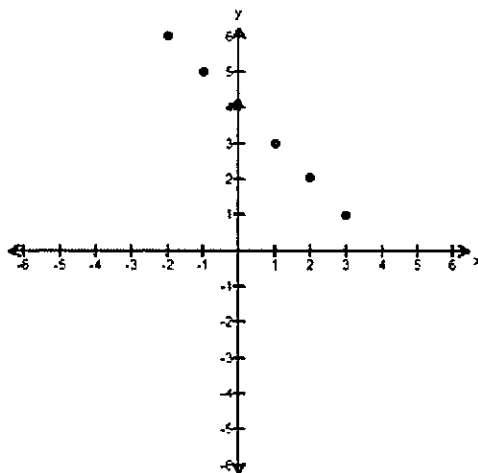
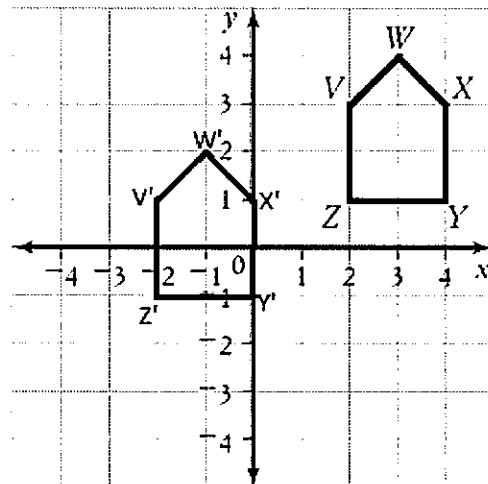
DIRECTIONS TO CANDIDATES:

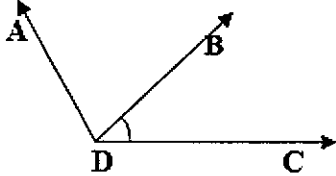
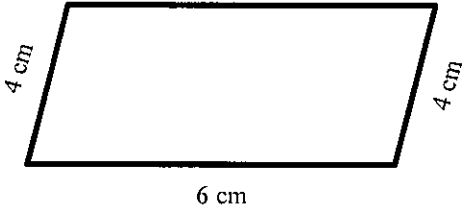
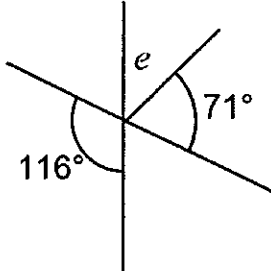
- ◇ Write your name and class in the space provided at the top of this page.
- ◇ Attempt all questions in the space provided.
- ◇ Calculators are NOT allowed to be used.
- ◇ All necessary working should be shown. Full marks may not be awarded for careless or badly arranged work.
- ◇ Diagrams are not drawn to scale.

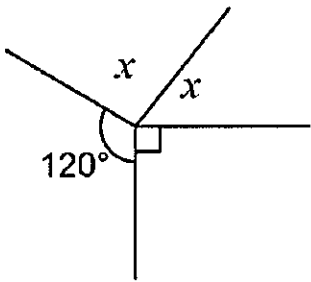
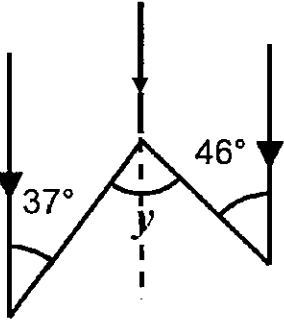
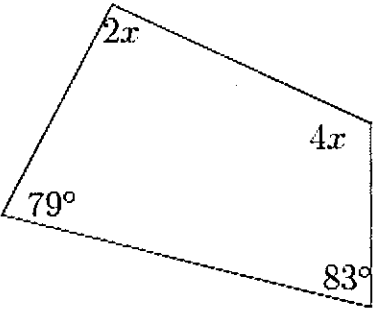
Number and Algebra		40
Question	Working/Answer	Marks
1 Round 3 859 643 to the nearest thousand.	3 860 000	1
2 What is the place value of the digit 3 in 6.1237?	3 thousandths or $\frac{3}{1000}$ <i>Thousandths of $\frac{1}{1000}$ also accepted</i>	1
3 How many times can 15 be subtracted from 135 before an answer of zero occurs?	9 times <i>or 8 times also accepted</i>	1
4 Evaluate and simplify where possible:		
(a) $24 \div 6 \times 4 =$	(a) 16	1
(b) $8 \times 8 - 16 \div 2 =$	(b) 56	1
(c) $16 \times [14 - (6 - 2)] =$	(c) $16 \times [14 - 4]$ $= 16 \times 10$ $= 160$	1
(d) $-2 - (-3) - (-4) =$	(d) $-2 + 3 + 4$ $= 5$	1
(e) $\frac{6}{5} \times \frac{7}{4} =$	(e) $\frac{42}{20}$ $= \frac{21}{10}$ or $2\frac{1}{10}$	2
(f) $3\frac{1}{8} \div 1\frac{1}{4} =$	(f) $\frac{25}{8} \div \frac{5}{4}$ $= \frac{25}{8} \times \frac{4}{5}$ $= \frac{5}{2}$ or $2\frac{1}{2}$	3

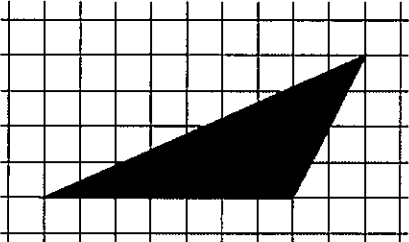
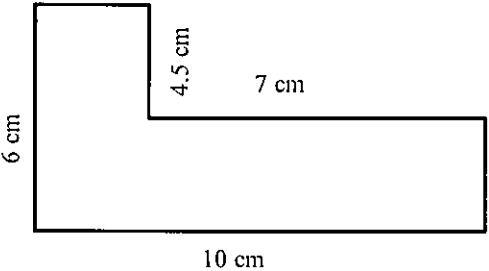
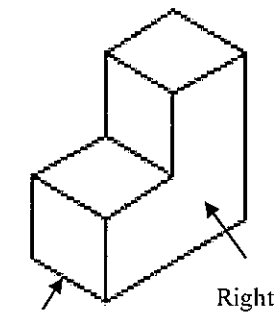
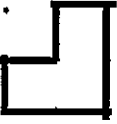
Question		Answer	Marks
5	Complete the factor tree or use a division process to find all the prime factors of 42	$ \begin{array}{c} 42 \\ \swarrow \searrow \\ 7 \quad 6 \\ \quad \swarrow \searrow \\ \quad 2 \quad 3 \end{array} $ $42 = \underline{7} \times \underline{2} \times \underline{3}$	1
6	Of the following numbers, 22, 35, 9, 20 and 1110 List all the numbers which are divisible by: (a) 2 (b) 3 (c) 5	(a) 22, 20, 1110 (b) 9, 1110 (c) 35, 20, 1110	1 1 1
7	At a movie, there were 640 in the audience. There were 214 men and 239 women. How many children were there?	$640 - 214 - 239$ $= 187$ 187 Children	2
8	Linda had \$240 and spent 25% of it. How much did she spend?	$240 \div 4 = \$60$	1
9	Two numbers have a product of 12 but their sum is -8. What are the numbers?	-6 and -2	1
10	Kate eats $\frac{2}{7}$ of her apple now and $\frac{1}{7}$ of the apple after dinner. What fraction is left over?	$1 - \frac{2}{7} - \frac{1}{7}$ $= \frac{4}{7}$ $\frac{4}{7}$ of apple is left over.	2

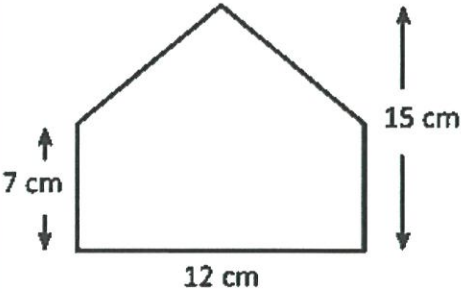
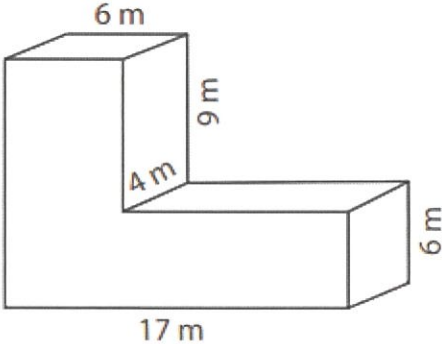
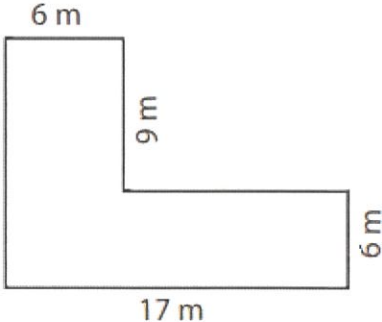
Question	Answer	Marks
11	A bottle contains 0.6 litres of milk. How many 0.25 litre glasses can be completely filled with this milk? $0.6 \div 0.25 = 2.4$ 2 glasses can be filled completely with this milk.	2
12	If $p = 3$ and $q = -5$, find the value of $4p + 3q$. $4 \times 3 + 3 \times -5$ $= 12 - 15$ $= -3$	1
13	If 720 viewers watch the TV series, Australia's Got Talent, out of 900 surveyed, what percentage is this? $\frac{720}{900} \times 100 = 80\%$	1
14	Write an expression if 7 is added to half of m . $\frac{m}{2} + 7$	1
15	Solve $2x + 3 = 11$ $2x = 8$ $x = 4$	2
16	(a) Give an example of where grid coordinates are used. (a) Maps / Street Directory / Seating Plan in a plane or cinema hall	1
	(b) What is another name for horizontal axis? (b) x axis	1
	(c) What are the coordinates of the Origin? (c) (0, 0)	1

Question	Answer	Marks														
17 (a) Plot and label the following points on a number plane: $A(-2, 1)$ $B(1, 5)$ $C(2, -2)$ (b) Describe the plane shape formed by joining these points.	(a)  (b) Triangle	2 1														
18 Graph this table of values on the number plane. <table border="1" data-bbox="185 922 707 1001"><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr></table>	x	-2	-1	0	1	2	3	y	6	5	4	3	2	1		2
x	-2	-1	0	1	2	3										
y	6	5	4	3	2	1										
19 (a) Translate the pentagon 4 units left and 2 units down and label the image $V'W'X'Y'Z'$. (b) Write the coordinates of Z'.	 $Z'(-2, -1)$	2 1														

Measurement and Geometry		26
Question	Answer	Marks
20 Name the angle marked with the "°" symbol in the following diagram. 	$\angle BDC$ or $\angle CDB$ or $B\hat{D}C$ or $C\hat{D}B$	1
21 What is the complement of 34°?	$90^\circ - 34^\circ = 56^\circ$	1
22 (a) Name the following shape:  (b) How many axes of symmetry does it have?	(a) Parallelogram (b) None	1 1
23 Find the value of the pronumerals in these diagrams. Reasons are not required. (a) 	(a) $e + 71^\circ = 116^\circ$ $= 116^\circ - 71^\circ$ $= 45^\circ$	1

Question	Answer	Marks
(b) 	(b) $x + x + 90^\circ + 120^\circ = 360^\circ$ $2x + 210^\circ = 360^\circ$ $2x = 360^\circ - 210^\circ$ $2x = 150^\circ$ $x = 75^\circ$	2
(c)  (d) 	(c) $y = 37^\circ + 46^\circ$ $= 83^\circ$ (d) $2x + 4x + 79^\circ + 83^\circ = 360^\circ$ $6x + 162^\circ = 360^\circ$ $6x = 198^\circ$ $x = 33^\circ$	2
24 Convert the following: (a) 2.3 m to cm (b) 2.3 m² to cm² (c) 2.3 m³ to L	(a) 230 cm (b) 23000 cm² (c) 2300 L	1 1 1

Question	Answer	Marks
25 What is the area of the triangle in square units? 	$\frac{1}{2} \times 7 \times 4$ $= 14 \text{ unit}^2$	2
26 Find the perimeter of the following shape. 	<i>Perimeter</i> $= 6 + 10 + 3 + 4.5 + 7 + 1.5$ $= 32 \text{ cm}$	1
27 For the solid shown below, draw:  Front Right (a) the top view (b) the front view (c) the right side view	a)  b)  c) 	3

Question	Answer	Marks
28  To find the area of this composite shape, divide it into a triangle and a rectangle. Draw the dividing line clearly on the diagram. (a) Calculate the area of the triangle. (b) Calculate the area of the rectangle. (c) Now calculate the area of the composite shape.	(a) $A = \frac{1}{2} \times 12 \times 8$ $= 48 \text{ cm}^2$ (b) $A = 12 \times 7$ $= 84 \text{ cm}^2$ (c) $48 + 84 = 132 \text{ cm}^2$	3
29  To calculate the volume this solid (a) Draw the shape of its cross section. (b) Find the area of the shape drawn for (a) (c) Find the volume using the formula $V = Ah$.	(a)  (b) $A = 6 \times 9 + 17 \times 6$ $= 54 + 102$ $= 156 \text{ m}^2$ (c) $V = A \times h$ $= 156 \times 4$ $= 624 \text{ m}^3$	3

End of Examination

