

YEAR 9 MATHEMATICS ASSIGNMENT – STAGE 5.1

Due Date: - Week 1 of Term 3

1 Solve:

- | | | |
|--------------------------|--------------------------|--------------------------|
| a $p + 3 = 7$ | b $r - 2 = 5$ | c $3x = 15$ |
| d $\frac{x}{5} = 3$ | e $2x + 1 = 7$ | f $3x - 1 = 5$ |
| g $4 - 2x = 10$ | h $2(x - 1) = 5$ | i $3(2x + 3) = 5$ |
| j $3(x - 5) = 2(2x + 5)$ | k $\frac{2 - 3x}{4} = 6$ | l $\frac{4 - 5x}{3} = 1$ |

2 a Is $x = 3$ a solution to $7x - 5 = 15$?

b If $a = -3$, $b = 5$ and $c = -2$, find the value of:

- i $3a - b + 2c$ ii $\frac{ac}{2b}$

c A number is doubled and the result is -10 . What is the number?

d Solve:

- i $4d \geq 20$ ii $x - 3 > 8$ iii $2x + 1 > 2$

3 a Define a numerical variable.

b For the scores 3, 5, 4, 3, 6, 9, 3, 1, find the:

- i mean ii mode iii median iv range

c For the scores in this frequency distribution table, find the:

- i mean
ii mode
iii median
iv range

Score	Frequency
15	7
16	11
17	11
18	14
19	7
20	3

d For the scores in this stem-and-leaf plot, find the:

- i mean
ii mode
iii median
iv range

Stem	Leaf
6	1 1 1 6 8 8
7	2 3 4 9
8	1 2 5 7 7 9 9
9	1 4 4 4 4 5 7
10	1 1 2 3 7 8

e i Draw a scatter plot for the information in this table.

x	4	8	11	17	19	29
y	8	9	11	14	16	21

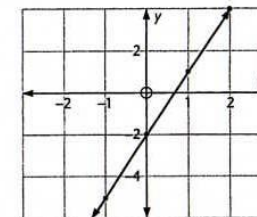
ii Is there a trend? Explain.

4 This graph shows a straight line.

i Use the graph to complete this table of values.

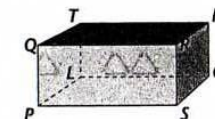
x	-2	-1	0	1	2
y					

ii Write the rule describing this straight line. The rule is of the form $y = \square x \pm \Delta$.



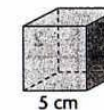
5 a In the rectangular prism PQRS is the front face. Name these faces:

- i back ii top
iii bottom iv sides



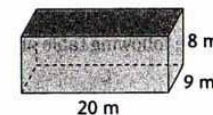
b i Draw a net of this cube.

ii Find the surface area of the cube.

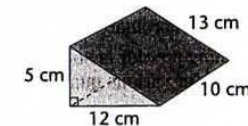


c Calculate the surface area of each prism.

i

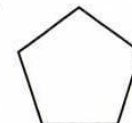


ii

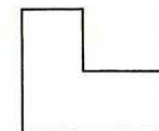


d Draw a sketch of a solid with these cross-sections.

i



ii

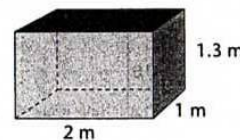


e Copy and complete.

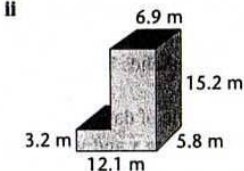
- i $1 \text{ cm}^3 = \underline{\hspace{1cm}} \text{ mm}^3$ ii $1 \text{ m}^3 = \underline{\hspace{1cm}} \text{ cm}^3$
iii $1 \text{ kL} = \underline{\hspace{1cm}} \text{ mL}$ iv $1 \text{ m}^3 = \underline{\hspace{1cm}} \text{ L}$

f Calculate the volume.

i



ii



g A concrete driveway is 33 m long and 4.2 m wide. Determine the cost of resurfacing the driveway at \$60 per m^2 .

h A water tank is rectangular in shape with dimensions 1.5 m by 0.5 m by 3.2 m. Find the:

- i volume in m^3 ii capacity in litres