

Topics covered:

- Chapter 2: Quadratic Equations & Graphs
- Chapter 3 Indices & Standard Form
- 1. Solve the following equations.
 - (a) Solve the equation $(x 1)^2 = 2x$

Answer: *x* = _____or____

(b)
$$\frac{8}{m-5} = 2 + m$$

Answer: *m* = _____or____

Sec 3 G2 Mock Test (WA2)



- 2. A photograph is to be placed in a photo frame of dimensions 20 cm by 16 cm with a border of uniform width *x* cm. The area of the border not covered by the photograph is 128 cm^2 .
 - (a) Write down an expression, in terms of x, for the length of the photograph.

Answer: _____cm

(b) Form an equation in x and show that it reduces to $x^2 - 18x + 32 = 0$.

(c) Solve the equation $x^2 - 18x + 32 = 0$ and hence, find the perimeter of the photograph.

Answer: _____cm



3. The diagram shows the graph of $y = 2x^2 + 6x - 8$ where it cuts the x-axis at P and Q, and the y-axis at R.



(a) Find the coordinates of *R*.

Answer: *R* = (_____,___)

(b) The point A(x, 12) lies on the curve. What are the possible values of x?

Answer: *x* = _____ or _____

(c) Find the minimum point of the graph.

Answer: Min point = (_____, ____)

4. Write 0.000715 in standard form.



5. Simplify the following equations, giving your answer in positive index notation.

(a)
$$\left(\frac{2x^{-2}y^5}{5x^4y^{-1}}\right)^{-2}$$

Answer: _____

(b)
$$(2a)^{-2} \times (64)^{\frac{2}{3}}$$

Answer: _____

6. Solve $3^{2p-1} \times 81^p = 1$