

Algebra: Quadratics, Rearranging Formulae and Identities

Calculator 20 minute test 4

Answer all questions.

1 Expand $(x - 7)(x - 8)$

[2 marks]

Answer _____

2 Factorise $x^2 - 169$

[1 mark]

3 Factorise $x^2 - 21x + 20$

[2 marks]

Answer _____

4 Simplify

[3 marks]

4 (a) $a^{27} \times a^3$

Answer _____

4 (b) $\frac{a^{27}}{a^3}$

Answer _____

4 (c) $(a^9b^2)^3$

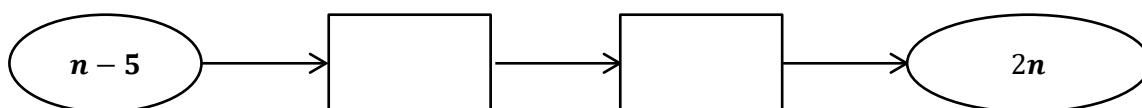
Answer _____

- 5 Given $y = f(x)$ and $f(x) = (3 - x)^2$, find y when $x = \frac{1}{2}$
Give your answer as a fraction.

[3 marks]

Answer _____

- 6 Here is a number machine



Write an operation in each box to make the number machine work.

[2 marks]

- 7 A formula to find the size of an interior angle (I) of a regular polygon is

$$I = \frac{180(n - 2)}{n}$$

where n is the number of sides of the regular polygon.

Find the interior angle of a regular polygon with 24 sides.

[2 marks]

Answer _____ degrees

8 Make h the subject of $\sqrt{h-5} = g$

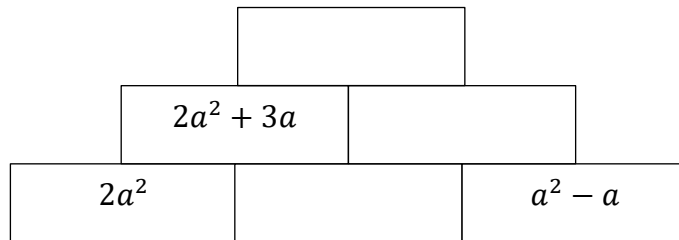
[2 marks]

Answer _____

9 To get the expression in each brick, add together the two expressions directly below it.

Show that the top box in this algebra pyramid is $3a(a+5)$.

[3 marks]



Answer _____