



EXAM PAPERS PRACTICE

GCSE Edexcel Math 1MA1 Expanding Quadratics

Answers

*"We will help you to
achieve A Star "*



Answer 1

Expand and simplify $(p + 9)(p - 4)$

$$\begin{aligned}(p + 9)(p - 4) &= \begin{matrix} \text{F} & \text{O} & \text{I} & \text{L} \\ p^2 & -4p & +9p & -36 \end{matrix} \\ &= \underline{\underline{p^2 + 5p - 36}}\end{aligned}$$



Answer 2

Expand and simplify $(m + 3)(m + 10)$

$$\begin{aligned} & (m+3)(m+10) \\ & \quad \text{F} \quad \text{O} \quad \text{I} \quad \text{L} \\ & = m^2 + 10m + 3m + 30 \\ & = \underline{\underline{m^2 + 13m + 30}} \end{aligned}$$



Answer 3

Expand and simplify

$$(y-2)(y-5)$$

F O I L

$$= y^2 - 5y - 2y + 10$$

$$= y^2 - 7y + 10$$



Answer 4

Expand and simplify $(m + 7)(m + 3)$

$$\begin{aligned} & (m + 7)(m + 3) \\ & \begin{array}{cccc} \text{F} & \text{O} & \text{I} & \text{L} \\ = & m^2 & + 3m & + 7m & + 21 \\ & = & m^2 & + 10m & + 21 \end{array} \\ & \underline{\underline{\hspace{10em}}}} \end{aligned}$$



Answer 5

Expand and simplify $(x + 4)(x + 6)$

$$\begin{aligned} & \text{F O I L} \\ & = x^2 + 6x + 4x + 24 \\ & = \underline{\underline{x^2 + 10x + 24}} \end{aligned}$$



Answer 6

Expand and simplify

$$(2x + 1)(x - 4)$$

$$\begin{array}{cccc} \text{F} & \text{O} & \text{I} & \text{L} \\ = & 2x^2 & -8x & +x & -4 \\ = & \underline{\underline{2x^2 - 7x - 4}} \end{array}$$



Answer 7

Expand $3y(4y - 3)$

$$= 3y \times 4y - 3 \times 3y$$

$$= \underline{\underline{12y^2 - 9y}}$$



Answer 8

Expand and simplify $(w - 5)^2$

$$\begin{aligned} (w-5)(w-5) &= \overset{F}{w^2} - \overset{O}{5w} - \overset{I}{5w} + \overset{L}{25} \\ &= \underline{\underline{w^2 - 10w + 25}} \end{aligned}$$



Answer 9

Expand and simplify $(2y + 3)(4y - 1)$

$$8y^2 - 2y + 12y - 3$$

$$8y^2 + 10y - 3$$

$$\underline{8y^2 + 10y - 3}$$



Answer 10

Expand and simplify $(2x + 3)(x - 8)$

$$\begin{aligned} & \text{F} \quad \text{O} \quad \text{I} \quad \text{L} \\ = & 2x^2 - 16x + 3x - 24 \\ = & 2x^2 - 13x - 24 \end{aligned}$$



Answer 11

Show that $(x+1)(x+2)(x+3)$ can be written in the form $ax^3 + bx^2 + cx + d$ where a, b, c and d are positive integers. \rightarrow "WHOLE NUMBERS"

$$\begin{aligned}(x+1)(x+2)(x+3) &= (x+1) \left[x^2 + 3x + 2x + 6 \right] \\ &= (x+1)(x^2 + 5x + 6) \\ &= x^3 + 5x^2 + 6x + x^2 + 5x + 6 \\ &= x^3 + 6x^2 + 11x + 6\end{aligned}$$



Answer 12

Simplify fully $(\sqrt{a} + \sqrt{4b})(\sqrt{a} - 2\sqrt{b})$

$$(\sqrt{a} + \sqrt{4b})(\sqrt{a} - 2\sqrt{b})$$

$$F \quad O \quad I \quad L$$

$$= \sqrt{a}\sqrt{a} - 2\sqrt{a}\sqrt{b} + \sqrt{4b}\sqrt{a} - 2\sqrt{4b}\sqrt{b}$$

$$= a - \cancel{2\sqrt{a}\sqrt{b}} + \cancel{2\sqrt{b}\sqrt{a}} - 2 \times 2\sqrt{b}\sqrt{b}$$

$$= \underline{a - 4b}$$



Answer 13

Expand the brackets and simplify.

$$(x+4)^2 + 5(3x+2)$$

$$x^2 + 8x + 16 + 15x + 10$$

$$= x^2 + 23x + 26$$



Answer 14

Show that

$$(3x - 1)(x + 5)(4x - 3) = 12x^3 + 47x^2 - 62x + 15$$

for all values of x .

$$\begin{aligned} & (3x - 1)(x + 5)(4x - 3) \\ &= \overset{F}{[} \overset{O}{3x^2} + \overset{I}{15x} - \overset{L}{x} - 5 \overset{]}{(4x - 3)} \\ &= (3x^2 + 14x - 5)(4x - 3) \\ &= 4x(3x^2 + 14x - 5) - 3(3x^2 + 14x - 5) \\ &= 12x^3 + 56x^2 - 20x - 9x^2 - 42x + 15 \\ &= \underline{\underline{12x^3 + 47x^2 - 62x + 15}} \end{aligned}$$



Answer 15

Expand and simplify $(3x - 2y)(x + 2y)$

$$3x^2 - 2yx + 6yx - 4y^2$$

$$3x^2 + 4xy - 4y^2$$

$$\underline{3x^2 + 4xy - 4y^2}$$