



# EXAM PAPERS PRACTICE

GCSE OCR Math J560

Expanding Quadratics

Answers

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



**Answer 1**

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 2**

Expand and simplify  $(x - 5)(x + 3)$

$$\begin{aligned} & \text{F O I L} \\ & = x^2 + 3x - 5x - 15 \\ & = \underline{\underline{x^2 - 2x - 15}} \end{aligned}$$



**Answer 3**

Expand and simplify  $(y+2)(y+5)$

$$\begin{aligned} & \text{F} \quad \text{O} \quad \text{I} \quad \text{L} \\ & = y^2 + 5y + 2y + 10 \\ & = \underline{y^2 + 7y + 10} \end{aligned}$$

**Answer 4**

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

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

**Answer 5**

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

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



**Answer 6**

Expand and simplify

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

$$\begin{aligned} & \text{F} \quad \text{O} \quad \text{I} \quad \text{L} \\ & = y^2 - 5y - 2y + 10 \\ & = y^2 - 7y + 10 \end{aligned}$$

**Answer 7**

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 8**

Expand and simplify  $(2t-3)(t+5)$

$$\begin{aligned} (2t-3)(t+5) & = \text{F} \quad \text{O} \quad \text{I} \quad \text{L} \\ & = 2t^2 + 10t - 3t - 15 \\ & = 2t^2 + 7t - 15 \end{aligned}$$



**Answer 9**

Expand and simplify  $(a + 5)(2a - 1)$

$$2a(a) + a(-1) + 5(2a) + 5(-1)$$

$$2a^2 + 9a - 5$$

$$\underline{\underline{2a^2 + 9a - 5}}$$

**Answer 10**

Expand and simplify

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

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

**Answer 11**

Expand  $3y(4y - 3)$

$$\begin{aligned} & = 3y \times 4y - 3 \times 3y \\ & = \underline{\underline{12y^2 - 9y}} \end{aligned}$$



**Answer 12**

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 13**

Show that

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

for all values of  $x$ .

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



**Answer 14**

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

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

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

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

**Answer 15**

Expand and simplify  $4x(x + 3) - (2x - 3)^2$

$$4x(x+3) - (2x-3)(2x-3)$$

$$4x^2 + 12x - (4x^2 - 6x - 6x + 9)$$

$$4x^2 - 4x^2 + 12x + 12x - 9$$

$$24x - 9 = 3(8x - 3)$$

$$\underline{3(8x - 3)}$$



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