

Q1

1

Multiply the term outside the brackets by all the terms inside the brackets

$$3 \times 2y - 3 \times 5$$

$$6y - 15 \quad []$$

Q2

Multiply the term outside the brackets by all the terms inside the brackets

$$4 \times 3x + 4 \times 5$$

$$12x + 20 \quad []$$

2b

Multiply the terms outside the brackets by all the terms inside the brackets

$$2 \times x - 2 \times 4 + 3 \times x + 3 \times 5$$

first or second pair of terms correct []

Simplify the terms (by multiplying their parts together)

$$2x - 8 + 3x + 15$$

Collect the x terms

$$2x + 3x = 5x$$

Collect the numbers

$$-8 + 15 = 7$$

Write down the final answer

$$5x + 7 \quad []$$

Q3-4

3a

Multiply the term outside the brackets by all the terms inside the brackets

$$3 \times 2 + 3 \times t$$

$$6 + 3t \quad []$$

3b

Multiply the term outside the brackets by all the terms inside the brackets

$$3x \times 2x + 3x \times 5$$

Simplify the terms (using $x \times x = x^2$)

$$6x^2 + 15x \quad []$$

4

Multiply the term outside the brackets by all the terms inside the brackets

$$4 \times x + 4 \times 2$$

$$4x + 8 \quad []$$

Q5

5

Multiply the term outside the brackets by all the terms inside the brackets

$$2m \times m + 2m \times 3$$

Simplify the terms (using $m \times m = m^2$)

$$2m^2 + 6m \quad [1]$$

Q6

6

Multiply the terms outside the brackets by all the terms inside the brackets

$$5 \times y - 5 \times 2 + 2 \times y - 2 \times 3$$

first or second pair of terms correct [1]

Simplify the terms (by multiplying their parts together)

$$5y - 10 + 2y - 6$$

Collect the y terms

$$5y + 2y = 7y$$

Collect the numbers

$$-10 - 6 = -16$$

Write down the final answer

$$7y - 16 \quad [1]$$

Q7

Multiply the term outside the brackets by all the terms inside the brackets

$$x \times x + x \times 2$$

Simplify the terms (using $x \times x = x^2$)

$$x^2 + 2x \quad []$$

7b

Multiply the terms outside the brackets by all the terms inside the brackets

$$3 \times y + 3 \times 2 + 4 \times x - 4 \times 1$$

first or second pair of terms correct []

Simplify the terms (by multiplying their parts together)

$$3y + 6 + 4x - 4$$

The 3y and 4x are not "like" terms (so cannot be combined any further)
Collect the numbers

$$6 - 4 = 2$$

Write down the final answer

$$3y + 4x + 2 \quad []$$

The final answer can have the three terms in any order

Q8

8

Multiply the term outside the brackets by all the terms inside the brackets

$$x \times x - x \times 3$$

Simplify the terms (using $x \times x = x^2$)

$$x^2 - 3x \quad []$$

Q9

9

Multiply the terms outside the brackets by all the terms inside the brackets

$$3 \times y - 3 \times 2 + 5 \times 2y + 5 \times 1$$

first or second pair of terms correct [1]

Simplify the terms (by multiplying their parts together)

$$3y - 6 + 10y + 5$$

Collect the y terms

$$3y + 10y = 13y$$

Collect the numbers

$$-6 + 5 = -1$$

Write down the final answer

$$13y - 1 [1]$$

Q10

10

Multiply the term outside the brackets by all the terms inside the brackets

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

Simplify the terms (by multiplying their parts together and using $y \times y = y^2$)

$$12y^2 - 9y [1]$$

Q11

11

Multiply the terms outside the brackets by all the terms inside the brackets

$$3 \times x + 3 \times 4 + 2 \times 5x - 2 \times 1$$

first or second pair of terms correct [1]

Simplify the terms (by multiplying their parts together)

$$3x + 12 + 10x - 2$$

Collect the x terms

$$3x + 10x = 13x$$

Collect the numbers

$$12 - 2 = 10$$

Write down the final answer

$$13x + 10 [1]$$

Q12-13

12

Multiply the term outside the brackets by all the terms inside the brackets

$$7 \times x + 7 \times 5$$

$$7x + 35 \quad []$$

13

Multiply the term outside the bracket by each of the terms inside the bracket.

Be careful with the second term being negative - we would assume this is $+4t \times (-2)$ and so a positive multiplied by a negative would result in a negative.

$$\begin{aligned} 4t(3t - 2) &= 4t \times 3t - 4t \times 2 \\ &= 12t^2 - 8t \end{aligned}$$

$$\begin{aligned} 4t(3t - 2) &= 12t^2 - 8t \\ \text{One term correct} &[] \\ \text{Fully correct} &[] \end{aligned}$$

Q14-15

Expand the brackets by multiplying everything inside the brackets by everything outside the brackets.

$$4x^2 \times 3x + 4x^2 \times 5$$

Simplify by completing the multiplications.

$$12x^3 + 20x^2 \quad []$$

If you try to combine the two different terms together, then you may end up with the incorrect answer of $32x^2$.

If you add the numbers but multiply the x 's you may get the incorrect answer of $7x^3 + 9x^2$.

If you multiply only part of the terms inside and outside the brackets, $4x^2 \times 3 + 5$ then you will end up with the incorrect answer of $12x^2 + 5$.

15

Expand these double brackets by multiplying everything in the first bracket by everything in the second bracket.

$$2x \times 3x - 4 \times 3x + 2x \times 5 - 4 \times 5$$

Simplify by completing the multiplications.

$$6x^2 - 12x + 10x - 20$$

Simplify by collecting "like" terms.

$$6x^2 - 2x - 20$$

Select the x term that appears in the given options.

$$-2x \quad []$$

If you forget the negative sign then you will get the incorrect answer of $2x$.

If you get the incorrect sign for the $-12x$ term then you will add this to the $10x$ and get the incorrect answer of $22x$.

If you get the incorrect sign for the $10x$ term then you will add this to the $-12x$ and get the incorrect answer of $-22x$.

Q16

16

Write out the squared brackets as a set of identical double brackets.

$$(x - 8)(x - 8)$$

Multiply everything in the first bracket by everything in the second bracket.

$$x \times x - 8 \times x - 8 \times x - 8 \times -8$$

Simplify by completing the multiplications.

$$x^2 - 8x - 8x + 64$$

Simplify by collecting "like" terms.

$$x^2 - 16x + 64 \quad []$$