Factorising into a Single Bracket

ANSWERS

1

Fill in the bracket.

$15 - 35y = -5(\quad)$

$-5 \times 7y = -35y$ and $-5 \times -3 = 15$

Answer $-5(7y - 3)$

2

Factorise $\frac{3}{4}m - \frac{9}{8}$ so that the bracket has whole numbers only.

$\frac{3}{4} = \frac{6}{8}$, so $\frac{3}{8} \times 2m = \frac{3}{4}m$

$\frac{3}{8} \times 3 = \frac{9}{8}$

Answer $\frac{3}{8}(2m - 3)$

3

Factorise fully.

$15\pi r^2 - 6\pi rl$

3, π and r go into both terms

Answer $3\pi r(5r - 2l)$

4

Simplify, then factorise fully.

$4(5x - 3) - 2(4x - 9)$

$20x - 12 - 8x + 18$

$= 12x + 6$

Answer $6(2x + 1)$

5

Factorise fully.

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

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

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

6

Factorise fully.

$4p(q - 3) + 5(3 - q)$

$5(3 - q) = -5(q - 3)$

Answer $(q - 3)(4p - 5)$

7

Show that $5^{21} + 5^{20} + 5^{19}$ is a multiple of 31.

$5^{19} \times 25 + 5^{19} \times 5 + 5^{19} \times 1$

$= 5^{19}(25 + 5 + 1)$

Shown 31×5^{19}

8

Factorise fully.

$6(x + 2)^3 - 9(x + 2)^2$

$3(x + 2)^2[2(x + 2) - 3]$

$2(x + 2) - 3 = 2x + 1$

Answer $3(x + 2)^2(2x + 1)$