GCSE FOUNDATION · REVISION MAT 5

# Factorising

**1** Factorise

(a) $9x - 21$

(b) $x^2 + 4x$

**2** Factorise fully $20y^2 + 8y$

**3** Fin factorises $24x + 36$ and writes $2(12x + 18)$

Explain why this is not fully factorised.

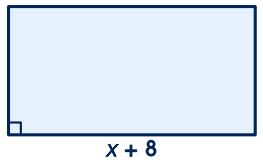
**4** $n$ is a whole number.

Show that $4n + 28$ is always a multiple of 4.

**5** Factorise $x^2 + 2x - 15$

**6** A rectangle has area $x^2 + 9x + 8$ cm$^2$.

Its length is $(x + 8)$ cm.




(a) Find an expression for the width.

(b) Find an expression for the perimeter.

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# Factorising

**1** (a) **$3(3x - 7)$**

(b) **$x(x + 4)$**

**2** HCF = $4y$

**$4y(5y + 2)$**

**3** $12x + 18$ still has a common factor.

The HCF of 24 and 36 is 12: **$12(2x + 3)$**

**4** $4n + 28 = 4(n + 7)$

This is 4 × a whole number, so it is **a multiple of 4** ✓

**5** Find two numbers that multiply to −15 and add to 2: 5 and −3

**$(x + 5)(x - 3)$**

**6** (a) $x^2 + 9x + 8 = (x + 8)(x + 1)$, width **$x + 1$**

(b) $2(x + 8) + 2(x + 1) =$ **$4x + 18$**