

Factorise:

Quadratics: $y = ax^2 + bx + c$

$\uparrow \quad \nearrow \quad \nearrow$
 coefficients
 (Numbers)

$$*) \quad 1x^2 + 6x + 8$$

$$ax^2 + bx + c$$

$$a = 1, b = 6, c = 8$$

$$\underbrace{x^2 + 2x} + \underbrace{4x + 8}$$

$$x(x + 2)$$

$$\underline{2} \times \underline{4} = \boxed{\begin{matrix} a \times c \\ +8 \end{matrix}}$$

$$\underline{2} + \underline{4} = \boxed{\begin{matrix} +6 \\ b \end{matrix}}$$

Factors of 8

$$1 \times 8$$

$$2 \times 4$$

$$*) \quad 4x + 6$$

$$2(2x + 3)$$

$$*) \quad 9y - 12$$

$$3(3y - 4)$$

$$*) \quad x^2 + 7x$$

$$x(x + 7)$$

$$x \times x^2 = x^3$$

$$*) \quad 6x^2 - 8x$$

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

$$2x \times \boxed{3x} = 6x^2$$

$$2x \times \boxed{4} = 8x$$

$$*) \quad 6c^2 - 4cd$$

$$2c(3c - 2d)$$

$$*) \quad 4xy^2 + 6xy + 2x^2y$$

$$2xy(2y + 3 + x)$$

$$2xy \times \boxed{2y} = 4xy^2$$

$$2xy \times \boxed{3} = 6xy$$

$$2xy \times \boxed{x} = 2x^2y$$

$$*) \quad 7w^2 + 6w + wy$$

$$w(7w + 6 + y)$$

$$w \times \boxed{7w} = 7w^2$$

$$w \times \boxed{6} = 6w$$

$$w \times \boxed{y} = wy$$

$$*) \quad \frac{8ab^2}{2ab} - \frac{10ab}{2ab}$$

$$2ab(4b - 5)$$

$$\frac{\overset{4}{\cancel{8}}\cancel{a}\overset{2}{\cancel{b^2}}}{\cancel{2}\cancel{a}\cancel{b}} = 4b$$

$$*) \quad \frac{11g^2h}{11h} + \frac{22h^2}{11h}$$

$$11h(g^2 + 2h)$$

$$*) \quad \frac{32y^3}{8y^2} + \frac{24y^2}{8y^2}$$

$$= 8y^2(4y + 3)$$