

Maths HL9 – Standard form, Expanding brackets and solving equations

- 1 The mass, in kilograms, of a grain of sand is 3.5×10^{-10} kg.
Find the total mass of 75 000 grains of sand.
Give your answer in standard form.

- 2 Expand and simplify as far as possible.

$$-3(x - 2y)$$

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

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

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

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

$$-4(5x - 2y) + 3(4y - 2x)$$

- 3 Solve the following equations

$$x - 9 = 18$$

$$2x + 7 = 35$$

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

$$2x + 3 = x - 4$$

$$6 - 2x = 4x - 6$$

$$\frac{2x}{5} - 4 = 12$$

$$\frac{3x}{2} + \frac{x}{3} = 22$$

$$x - 1 = 3(3x - 2) - (3x + 4)$$

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