

Exercice 1 : Corrigé

1. $-2x = 6$

$$x = \frac{6}{-2}$$

$$x = -3$$

$x - 2 = 6$

$$x = 6 + 2$$

$$x = 8$$

$\frac{x}{2} - 2 = -6$

$$\frac{x}{2} = -6 - 2$$

$$\frac{x}{2} = -8$$

$$x = -16$$

2. $17 = 2 - 3x$

$$3x = 2 - 17$$

$$3x = -15$$

$$x = -5$$

3. $2x - 7 = 3x + 2$

$$2x - 3x = 2 + 7$$

$$-x = 9$$

$$x = -9$$

4. $7x + 5 = 12x - 3$

$$7x - 12x = -3 - 5$$

$$-5x = -8$$

$$x = \frac{-8}{-5} = \frac{8}{5}$$

Exercice 2 : Corrigé

1) $4x - (x + 1) = 5x + 2$

$$4x - x - 1 = 5x + 2$$

$$3x = 5x + 2 + 1$$

$$3x - 5x = 3$$

$$-2x = 3$$

$$x = \frac{3}{-2}$$

2) $-3(2x - 1) + 5x = 3x - 2(4x - 3)$

$$-6x + 3 + 5x = 3x - 8x + 6$$

$$-x + 3 = -5x + 6$$

$$-x + 5x = 6 - 3$$

$$4x = 3$$

$$x = \frac{3}{4}$$

3) $x - 3(-4x + 5) = 2(x + 1) - 5(1 - 2x)$

$$x + 12x - 15 = 2x + 2 - 5 + 10x$$

$$13x - 15 = 12x - 3$$

$$13x - 12x = -3 + 15$$

$$x = 12$$

4) $\frac{3}{2}x + 14 = 2$

$$\frac{3}{2}x = 2 - 14$$

$$\frac{3}{2}x = -12$$

$$x = -12 \times \frac{2}{3} = -8$$

5) $\frac{2}{3}x + \frac{1}{2} = x + \frac{1}{4}$

$$\frac{2}{3}x - x = \frac{1}{4} - \frac{1}{2}$$

$$-\frac{1}{3}x = -\frac{1}{4}$$

$$x = -\frac{1}{4} \times -\frac{3}{1} = \frac{3}{4}$$

$$x = -8$$

Exercice 3 : Corrigé

1) $\frac{x}{2} + \frac{x}{3} = 4$

$$\frac{3x}{6} + \frac{2x}{6} = 4$$

$$\frac{5x}{6} = 4$$

$$x = \frac{4 \times 6}{5} = \frac{24}{5}$$

2) $\frac{x+1}{4} - \frac{2x+5}{6} = 1$

$$\frac{3x+3}{12} - \frac{4x+10}{12} = 1$$

$$\frac{-x-7}{12} = 1$$

$$-x - 7 = 12$$

$$-x = 12 + 7$$

$$x = -19$$

3) $\frac{x-1}{2} + \frac{x+2}{3} = x$

$$\frac{3x-3}{6} + \frac{2x+4}{6} = x$$

$$\frac{5x+1}{6} = x$$

$$5x + 1 = 6x$$

$$1 = 6x - 5x$$

$$x = 1$$

Exercice 4 : Corrigé

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

$$2x^2 - 1 = 2x^2 - 3x - 8x + 12$$

$$2x^2 - 2x^2 + 3x + 8x = 12 + 1$$

$$11x = 13$$

$$x = \frac{13}{11}$$

2) $(2x - 3)^2 - 4x + 5 = 4x^2 - 3$

$$4x^2 - 12x + 9 - 4x + 5 = 4x^2 - 3$$

$$4x^2 - 4x^2 - 16x + 14 = -3$$

$$-16x = -17$$

$$x = \frac{17}{16}$$

3) $(5 - 4x)(x - 5) = 0$

$$5 - 4x = 0 \quad \text{ou} \quad x - 5 = 0$$

$$4x = 5 \quad \text{ou} \quad x = 5$$

$$x = \frac{5}{4} \quad \text{ou} \quad x = 5$$

4) $2x(3x - 4) = 0$

$$2x = 0 \quad \text{ou} \quad 3x - 4 = 0$$

$$x = 0 \quad \text{ou} \quad 3x = 4$$

$$x = 0 \quad \text{ou} \quad x = \frac{4}{3}$$

5) $(x + 2)(x - 5) = 0$

$$x + 2 = 0 \quad \text{ou} \quad x - 5 = 0$$

$$x = -2 \quad \text{ou} \quad x = 5$$

Exercice 5 : Corrigé

1) $4x^2 - 9 = 0$

$$(2x + 3)(2x - 3) = 0$$

$$2x + 3 = 0 \quad \text{ou} \quad 2x - 3 = 0$$

$$2x = -3 \quad \text{ou} \quad 2x = 3$$

$$x = \frac{-3}{2} \quad \text{ou} \quad x = \frac{3}{2}$$

2) $9x^2 - 12x + 4 = 0$

$$(3x - 2)^2 = 0$$

$$3x - 2 = 0$$

$$3x = 2$$

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

3) $16x^2 - 25 = 0$

$$(4x + 5)(4x - 5) = 0$$

$$4x + 5 = 0 \quad \text{ou} \quad 4x - 5 = 0$$

$$4x = -5 \quad \text{ou} \quad 4x = 5$$

$$x = \frac{-5}{4} \quad \text{ou} \quad x = \frac{5}{4}$$

4) $(2x + 3)^2 - 4 = 0$

$$(2x + 3 + 2)(2x + 3 - 2) = 0$$

$$2x + 5 = 0 \quad \text{ou} \quad 2x + 1 = 0$$

$$2x = -5 \quad \text{ou} \quad 2x = -1$$

$$x = \frac{-5}{2} \quad \text{ou} \quad x = \frac{-1}{2}$$
