

Exc 1

1. $x + 2 = 3$

$(\Rightarrow) x = 3 - 2$

$(\Rightarrow) x = 1$

2. $x - 2 = 0$

$(\Rightarrow) x = 2$

3. $3x = 9$

$(\Rightarrow) x = \frac{9}{3}$

$(\Rightarrow) x = 3$

4. $2x = 3$

$(\Rightarrow) x = \frac{3}{2}$

5. $4x = -16$

$(\Rightarrow) x = -\frac{16}{4}$

$(\Rightarrow) x = -4$

6. $5x = 0$

$(\Rightarrow) x = 0$

7. $0,5x = 1$

$(\Rightarrow) x = \frac{1}{0,5}$

$(\Rightarrow) x = 2$

8. $\frac{2}{5}x = \frac{3}{4}$

$(\Rightarrow) x = \frac{3}{4} \times \frac{5}{2}$

$(\Rightarrow) x = \frac{15}{8}$

ex 2

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

$$\Leftrightarrow 2x - 5x = 1 - 3$$

$$\Leftrightarrow -3x = -2$$

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

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

4.

$$-2x + 2 = 3x - 6$$

$$\Leftrightarrow -2x - 3x = -2 - 6$$

$$\Leftrightarrow -5x = -8$$

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

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

6. $\frac{1}{3}x - \frac{2}{5} = 3x - 4$

$$\Leftrightarrow \frac{1}{3}x - 3x = \frac{2}{5} - 4$$

$$\Leftrightarrow -\frac{7}{3}x = -\frac{18}{5}$$

$$\Leftrightarrow x = \frac{18}{5} \times \frac{3}{7}$$

$$\Leftrightarrow x = \frac{54}{35}$$

2. $4x - 1 = 3x + 4$

$$\Leftrightarrow 4x - 3x = 4 + 1$$

$$\Leftrightarrow x = 5$$

3. $3x - 5 = 7x - 6$

$$\Leftrightarrow 3x - 7x = 5 - 6$$

$$\Leftrightarrow -4x = -1$$

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

$$\Leftrightarrow x = \frac{1}{4}$$

5.

$$-4x + 3 = -7x - 1$$

$$\Leftrightarrow -4x + 7x = -3 - 1$$

$$\Leftrightarrow 3x = -4$$

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

7. $-\frac{1}{2}x + \frac{1}{3} = -\frac{1}{4}x + \frac{1}{5}$

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

$$\Leftrightarrow -\frac{1}{4}x = -\frac{2}{15}$$

$$\Leftrightarrow x = \frac{2}{15} \times 4$$

$$\Leftrightarrow x = \frac{8}{15}$$

$$\frac{8}{5} \cdot \frac{2}{5} x + 2 = \frac{3}{4}$$

$$\Leftrightarrow \frac{2}{5} x = \frac{3}{4} - \frac{8}{4}$$

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

$$\Leftrightarrow x = -\frac{25}{8}$$

ex 3

1. $x \neq -2$

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

$$\Leftrightarrow \frac{x+1}{x+2} - \frac{3}{4} = 0$$

$$\Leftrightarrow \frac{4(x+1) - 3(x+2)}{4(x+2)} = 0$$

$$\Leftrightarrow \frac{x-2}{4(x+2)} = 0$$

$$\Leftrightarrow \underline{x = 2}$$

2. $x \neq -\frac{4}{3}$

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

$$\Leftrightarrow \frac{2x+1}{3x+4} - \frac{4}{5} = 0$$

$$\Leftrightarrow \frac{5(2x+1) - 4(3x+4)}{5(3x+4)} = 0$$

$$\Leftrightarrow \frac{-2x - 11}{5(3x+4)} = 0$$

$$\Leftrightarrow -2x - 11 = 0$$

$$\Leftrightarrow x = \underline{\underline{-\frac{11}{2}}}$$

$$\underline{\underline{3(x + \frac{-3}{5})}}$$

$$\frac{3x+2}{5x+3} = -\frac{2}{3}$$

$$\Leftrightarrow \frac{3x+2}{5x+3} + \frac{2}{3} = 0$$

$$\Leftrightarrow \frac{3(3x+2)}{3(5x+3)} + \frac{2(5x+3)}{3(5x+3)} = 0$$

$$\Leftrightarrow \frac{19x+12}{3(5x+3)} = 0$$

$$\Leftrightarrow 19x + 12 = 0$$

$$\Leftrightarrow x = \underline{\underline{-\frac{12}{19}}}$$

ex 4

1.

$$(x+1)(x+2)=0$$

$$\Leftrightarrow x = -1 \text{ ou } x = -2$$

$$S = \{-2, -1\}$$

2. $(2x+1)(3x+4)=0$

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

$$S = \left\{-\frac{4}{3}, -\frac{1}{2}\right\}$$

ex 5

1. $x^2 = 1$

$$\Leftrightarrow x = 1 \text{ ou } x = -1$$

$$S = \{-1, 1\}$$

2. $x^2 = -1$

$$S = \{\emptyset\} \quad \text{Pas de solution}$$

3. $2x^2 = 4$

$$\Leftrightarrow x^2 = \frac{4}{2}$$

$$\Leftrightarrow x^2 = 2$$

$$\Leftrightarrow x = \sqrt{2} \text{ ou } x = -\sqrt{2}$$

$$S = \{\sqrt{2}, -\sqrt{2}\}$$

ex 6

$$\underline{1.} \quad \frac{x+1}{x+2} = 0$$

$$x \neq -2$$

$$\frac{x+1}{x+2} = 0$$

$$\Leftrightarrow x+1 = 0$$

$$\Leftrightarrow \underline{x = -1}$$

$$\underline{2.} \quad x \neq -\frac{4}{3}$$

$$\frac{2x+1}{3x+4} = 0$$

$$\Leftrightarrow 2x+1 = 0$$

$$\Leftrightarrow \underline{x = -\frac{1}{2}}$$

$$\underline{3.} \quad \frac{3x+2}{5x+3} = 0$$

$$x \neq -\frac{3}{5}$$

$$\frac{3x+2}{5x+3} = 0$$

$$\Leftrightarrow 3x+2 = 0$$

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