

Corrigé du DM1  
1FTP/1ALT

Résoudre  $R^2 + R^3 = 0$   
 $R^2(1+R) = 0$   
 $a \times b = 0$

Avec  $R^2 = 0$  ou  $1+R=0$   
 $R=0$  ou  $R=-1$

$$S = \{0; -1\}$$

Factoriser puis Résoudre!

Si  $AB = 0$  alors  $A=0$  ou  $B=0$   
Si  $A=0$  et  $B=0$  alors  
 $AB = 0$

[ C'est pas  $S = \{-1; 0\}$  ]  
?



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## Exercice 1 page 16 du Chapitre 1:

$$1) (100+5) \times 2 = 105 \times 2 = 210$$

$$2) 100 + 5 \times 2 = 100 + 10 = 110$$

$$3) 13 + 7 \times 2 - 5 = 13 + 14 - 5 = 27 - 5 = 22.$$

$$4) (13+7) \times (2-5) = 20 \times (-3) = -60$$

$$5) 8 \times 4 + 3 \times 2 = 32 + 6 = 38$$

$$6) 8 \times (4+3) \times 2 = 8 \times 7 \times 2 = 56 \times 2 = 112$$

$$7) (5x+6)(3x+2) = 15x^2 + 10x + 18x + 12 \\ = 15x^2 + 28x + 12.$$

$$8) 5x + 6(3x+2) = 5x + 18x + 12$$



$$\begin{aligned} 8) \quad 5x + 6(3x + 2) &= 5x + 18x + 12 \\ &= 23x + 12. \end{aligned}$$

$$\begin{aligned} 9) \quad 2 - (2R + 5) &= 2 - 2R - 5 \\ &= -2R - 3 \end{aligned}$$

$$10) \quad 3y + x(y^2 - 2xy) = 3y + xy^2 - 2xy.$$

$$11) \quad 3y + xy^2 - 2xy = y + xy^2$$

$$\begin{aligned} 12) \quad \text{Factoriser par } R : 3R^2 - 2R + 1 \\ \Leftrightarrow R \left( 3R - 2 + \frac{1}{R} \right). \end{aligned}$$

$$13) 9R^2 - 3R = R(9R - 3)$$

→ Équation de second degré :  $a = 9$  ;  $b = -3$  et  $c = 0$

Nombre de solutions :  $\Delta = b^2 - 4ac = (-3)^2 = 9$

$9 > 0$  donc 2 solutions

$$x_1 = \frac{-3 + \sqrt{9}}{2 \times 9}$$

$$x_2 = \frac{-3 - \sqrt{9}}{2 \times 9}$$

$$x_1 = \frac{0}{18} = 0$$

$$x_2 = 0$$

$$13. \quad 9R^2 - 3R = 3R(3R-1)$$

$$9R^2 - 3R = 3R(3R-1) = 0$$

$$\rightarrow 3R = 0 \Rightarrow R = 0$$

$$\rightarrow 3R - 1 = 0 \Rightarrow 3R = 1 \Rightarrow R = \frac{1}{3}$$

$$\left. \begin{array}{l} \rightarrow 3R = 0 \Rightarrow R = 0 \\ \rightarrow 3R - 1 = 0 \Rightarrow 3R = 1 \Rightarrow R = \frac{1}{3} \end{array} \right\} S = \left\{ 0, \frac{1}{3} \right\} \cup \mathbb{R}$$

$$13) \quad 9R^2 - 3R = 3R(-1 + 3R)$$

$$9R^2 - 3R = 0$$

$$3R(3R-1)$$

$$3R = 0$$

$$R = 0$$

$$(3R-1) = 0$$

$$R = \frac{1}{3}$$

$$S = \left\{ 0, \frac{1}{3} \right\}$$