

Test n°2 - Second degré - 1ère spé maths

20 septembre 2022 - 15 min

Résoudre les équations suivantes :

1) $1 - 16x^2 = 0$

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

3) $3x^2 - x + 8 = 0$

4) $\frac{1}{4}x^2 - \frac{3}{2}x + \frac{9}{4} = 0$

5) $-2x^2 + 4x - 1 = 0$

1) $1 - 16x^2 = 0$
 $\Leftrightarrow (1 + 4x)(1 - 4x) = 0$
 $S = \left\{ \frac{1}{4}; \frac{1}{4} \right\}$ 1

2) $3x^2 - 2x = 0$
 $\Leftrightarrow x(3x - 2) = 0$
 $S = \left\{ 0; \frac{2}{3} \right\}$ 9/5

3) $3x^2 - x + 8 = 0$
 $\Delta = 1 - 4 \times 3 \times 8 = -95$
 $\Delta < 0$
 $S = \emptyset$ 9/5

4) $\frac{1}{4}x^2 - \frac{3}{2}x + \frac{9}{4} = 0$
 $\Leftrightarrow x^2 - 6x + 9 = 0$
 $\Leftrightarrow (x - 3)^2 = 0$
 $S = \{3\}$ 1

5) $-2x^2 + 4x - 1 = 0$
 $\Delta = 16 - 4 \times (-2) \times (-1) = 8$ 15 $\sqrt{\Delta} = \sqrt{8} = 2\sqrt{2}$
 $x_1 = \frac{-4 - 2\sqrt{2}}{-4} = \frac{2 + \sqrt{2}}{2}$ or $x_2 = \frac{2 - \sqrt{2}}{2}$
 $S = \left\{ \frac{2 - \sqrt{2}}{2}; \frac{2 + \sqrt{2}}{2} \right\}$ 15

$\left(\begin{array}{l} \Delta = b^2 - 4ac \\ x_1 = \frac{-b - \sqrt{\Delta}}{2a}; x_2 = \frac{-b + \sqrt{\Delta}}{2a} \end{array} \right)$ 15