SOLUCIONES ECUACIONES SEGUNDO GRADO

1. $x_1 = \sqrt{3}$ $x_2 = -\sqrt{3}$	**13.** $x_1 = 0$ $x_2 = -3$	**26.** $x_1 = 7/2$ $x_2 = -2/3$
2. $x_1 = 14$ $x_2 = -14$	**14.** $x_1 = 0$ $x_2 = -1/2$	**27.** $x_1 = 1$ $x_2 = -3$
3. $x = 0$	**15.** $x_1 = 0$ $x_2 = -5$	**28.** $x_1 = 1/3$ $x_2 = -2$
4. $x_1 = 1$ $x_2 = -1$	**16.** $x_1 = 0$ $x_2 = 3/4$	**29.** $x_1 = 2/3$ $x_2 = -3/4$
5. $x_1 = 5/2$ $x_2 = -5/2$	**17.** $x_1 = 0$ $x_2 = -8$	**30.** $x_1 = \frac{-1+\sqrt{37}}{18}$
6. $x = 0$	**18.** $x_1 = 0$ $x_2 = -1/3$	$x_2 = \frac{-1-\sqrt{37}}{18}$
7. $x_1 = 1/3$ $x_2 = -1/3$	**19.** $x_1 = 0$ $x_2 = 6/5$	**31.** $x_1 = \frac{5+\sqrt{145}}{20}$
8. $x_1 = 49$ $x_2 = -49$	**20.** $x_1 = 0$ $x_2 = -1/4$	$x_2 = \frac{5-\sqrt{145}}{20}$
9. $x_1 = \frac{1}{\sqrt{5}}$ $x_2 = -\frac{1}{\sqrt{5}}$	**21.** $x_1 = 0$ $x_2 = 1$	**32.** $x = \frac{4+\sqrt{-24}}{10}$ $\nexists$
$x_1 = \frac{\sqrt{5}}{5}$ $x_2 = -\frac{\sqrt{5}}{5}$	**22.** $x_1 = 0$ $x_2 = 15/8$	**33.** $x_1 = 7$ $x_2 = -5$
10. $x_1 = 3\sqrt{2}$ $x_2 = -3\sqrt{2}$	**23.** $x_1 = 0$ $x_2 = -8/3$	**34.** $x_1 = -4$ $x_2 = -9$
11. $x_1 = \sqrt{17}$ $x_2 = -\sqrt{17}$	**24.** $x_1 = -1/2$ $x_2 = -2$	**35.** $x_1 = \frac{5+\sqrt{53}}{2}$
12. $x_1 = 0$ $x_2 = 1$	**25.** $x_1 = 7/3$ $x_2 = 3/2$	$x_2 = \frac{5-\sqrt{53}}{2}$

36. $x_1 = 7$ $x_2 = 3$	**48.** $x_1 = \frac{-5+\sqrt{193}}{12}$ $x_2 = \frac{-5-\sqrt{193}}{12}$	**59.** $x = \frac{7\pm\sqrt{-63}}{8}$ $\nexists$
37. $x_1 = 5$ $x_2 = 2$		**60.** $x_1 = \frac{5+\sqrt{5}}{10}$ $x_2 = \frac{5-\sqrt{5}}{10}$
38. $x_1 = 2/3$ $x_2 = -1$	**49.** $x_1 = 1$ $x_2 = -2$	
39. $x_1 = 3/4$ $x_2 = -1/2$	**50.** $x_1 = 0$ $x_2 = -5$	**61.** $x = 0$
40. $x_1 = 3$ $x_2 = -4$	**51.** $x_1 = 9/2$ $x_2 = 1/2$	**62.** $x = \sqrt{-\frac{3}{5}}$ $\nexists$
41. $x_1 = 3$ $x_2 = -9/5$	**52.** $x = \frac{2\pm\sqrt{-528}}{14}$ $\nexists$	**63.** $x_1 = \sqrt{3}$ $x_2 = -\sqrt{3}$
42. $x_1 = 3/5$ $x_2 = -1$	**53.** $x_1 = \frac{3+\sqrt{89}}{10}$ $x_2 = \frac{3-\sqrt{89}}{10}$	**64.** $x = \sqrt{-\frac{3}{2}}$ $\nexists$
43. $x_1 = 5$ $x_2 = -8$		**65.** $x_1 = 0$ $x_2 = 4$
44. $x_1 = \frac{5+\sqrt{97}}{3}$ $x_2 = \frac{5-\sqrt{97}}{3}$	**54.** $x_1 = 1$ $x_2 = -2$	**66.** $x_1 = 3$ $x_2 = -3$
	55. $x_1 = 2$ $x_2 = -5$	**67.** $x = \frac{4\pm\sqrt{-16}}{2}$ $\nexists$
45. $x_1 = 4$ $x_2 = -7$	**56.** $x_1 = 1/2$ $x_2 = -1/5$	**68.** $x = \frac{3\pm\sqrt{-31}}{20}$ $\nexists$
46. $x_1 = 1/3$ $x_2 = -5/2$	**57.** $x = \frac{-3\pm\sqrt{-39}}{8}$ $\nexists$	**69.** $x_1 = -2$ $x_2 = 1/3$
47. $x_1 = 5$ $x_2 = -5$	**58.** $x_1 = -4+\sqrt{7}$ $x_2 = -4-\sqrt{7}$	**70.** $x = \frac{-1\pm\sqrt{-15}}{2}$ $\nexists$

ECUACIONES DE SEGUNDO GRADO

Sin resolver las ecuaciones, di cuántas soluciones tienen:

1. $16x^2+1=0$ $\Delta = -64$ No tiene solución

2. $x^2+4x-12=0$ $\Delta = 64$ Dos soluciones

3. $-9x^2=12x+4 \rightarrow 9x^2+12x+4=0$ $\Delta = 0$ Una solución

4. $9x^2=-360 \rightarrow 9x^2+360=0$ $\Delta = -12960$ No tiene solución

5. $20x+4x^2=-25 \rightarrow 4x^2+20x+25=0$ $\Delta = 0$ Una solución

6. $x^2+x=-4 \rightarrow x^2+x+4=0$ $\Delta = -15$ No tiene solución

Factorizar las siguientes ecuaciones:

1. $9x^2-1=0$ $9\left(x-\frac{1}{3}\right)\left(x+\frac{1}{3}\right)=0$

2. $2x^2+x=0$ $2x\left(x+\frac{1}{2}\right)=0$

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

4. $2x^2+5x+2=0$ $2(x+2)\left(x+\frac{1}{2}\right)=0$

Escribir una ecuación de 2º grado cuyas soluciones sean:

1. 1 y –2 $(x-1)(x+2)=0 \rightarrow x^2+x-2=0$

2. 3/2 $\left(x-\frac{3}{2}\right)^2=0 \rightarrow x^2-3x+\frac{9}{4}=0 \rightarrow 4x^2-12x+9=0$

3. 0 y –5/3 $x\left(x+\frac{5}{3}\right)=0 \rightarrow x^2+\frac{5}{3}x=0 \rightarrow 3x^2+5x=0$

4. No tenga solución $x^2+4=0$