



Conceptos previos

Listado de Ecuaciones de Diofánticas (segundo grado).-

Forma general : $ax^2 + bx + c = 0$

$$\text{Fórmula Diofántica: } x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Discriminante: $\Delta = b^2 - 4ac$

Si $\Delta > 0 \Rightarrow x' \neq x'' \in \mathfrak{R}$

Si: $\Delta = 0 \Rightarrow x' = x'' \in \mathfrak{R}$

Si: $\Delta < 0 \Rightarrow x' \neq x'' \notin \mathfrak{R}$

1.- $8x^2 + 56 = 380 + 7x^2$

2.- $x^2 = a^2 - 10ab + 25b^2$

3.- $(7+x)^2 = 130$

4.- $(2x-3)(3x-4) - (x-4) = 40$

5...- $8(2-x)^2 = 2(8-x)^2$

6.- $\frac{x^2 - 6}{2} - \frac{x^2 + 4}{4} = 5$

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

8.- $\frac{ax+b}{a+bx} = \frac{cx+d}{c+dx}$

9.- $\sqrt{x+4} - \sqrt{x-4} = \frac{x+1}{\sqrt{x+4}}$

10.- $\sqrt{5+x} - \sqrt{25-3x} = 2\sqrt{5-x}$

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

12.- $(4^{2-x})^{2-x} = 4096$

13.- $\frac{x+1}{x+2} + \frac{x-1}{x-2} = \frac{2x-1}{x-1}$

14.- $3x + \frac{54}{2x+3} = 18$

15.- $3(x^2 - 5) - 2(x^2 - 70) = 17 + x$

16.- $5\sqrt{5+x} - \sqrt{25-3x} = 2\sqrt{5-x}$

17.- $\sqrt{1+4x}\sqrt{1-4x} = 4\sqrt{x}$

18.- $(7x-9)(3x+5) = 4(7x-9)$

19.- $(3x-2)(2x-3) = (3x-2)(3x-4)$

20.- $-x + \frac{15}{x} = 8$

21.- $x^2 - 2ax + 6ab = 9b^2$

22.- $x^2 - (5a+7b)x + 35ab = 0$

23.- $x^2 - (5a+6b)x + 30ab = 0$

24.- $3(x^2 - 8) = 2x(x-1)$

25.- $(x-3)^2 + (x-4)^2 - (x-5)^2 = 17x + 22$

26.- $\frac{3x^2 + 8x + 15}{7x^2 - 15x + 27} = \frac{2}{3}$

$$27.-\frac{4}{x-1}-\frac{3-x}{2}=2$$

$$28.-\frac{3}{x-4}-\frac{4}{x-2}=\frac{3}{x}$$

$$29.-\frac{x+3}{3}-\frac{3-x}{x-4}=\frac{x}{6}+\frac{x-2}{4}$$

$$30.-\sqrt{x+7}+\sqrt{5(x-2)}=3$$

$$31.-2\sqrt{x-1}=\frac{3x}{\sqrt{2x+5}}$$

$$32.-\sqrt{x-7}+\frac{4}{\sqrt{x-7}}=\sqrt{2x-9}$$

$$33.-2ax^2-a^2b^3=2ab^2x-2a^2bx$$

$$34.-a(x+a)^2=b(x+b)^2$$

$$35.-\frac{(2x-9)^2+(3x-14)^2}{(x-1)^2}$$

$$36.-\frac{(2x+3):7}{(2x+2):((3x+2))}$$

$$37.-\frac{(2a+3b)x^2-(a-2b)x+a+5b}{(x-1)^2}$$

$$38.-\frac{x+1}{3+x}=1+3x$$

$$39.-\frac{7-3x}{5-x}-\frac{2x}{3-x}=8$$

$$40.-\frac{x+2}{x-2}+\frac{x-2}{x+2}=\frac{40}{21}$$

$$41.-\frac{5x-8}{4}-\frac{3x-4}{5}=\frac{17}{2x-7}+\frac{x-4}{2}$$

$$42.-\frac{2x+\sqrt{x+3}}{27}=\frac{5}{2x-\sqrt{x+3}}$$