

Disequazioni intere di primo grado

Risolvi le seguenti disequazioni.

1. $x - (4x - 1) < 7$

$$[x > -2]$$

2. $3x + 3(x - 1) \geq 5 + 2x$

$$[x \geq 2]$$

3. $(1 - \frac{1}{3})x + \frac{5}{3}(2x - 1) < -\frac{2}{3} - 3x$

$$[x < \frac{1}{7}]$$

4. $x - 3 + 2x + 4(x - 1) \leq x + 1$

$$[x \leq \frac{4}{3}]$$

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

$$[x < 3]$$

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

$$[x < 11]$$

7. $\frac{3}{4}(x + 1) - \frac{7}{8}(x - 1) > \frac{9}{4}(x + 1) + 2x$

$$[x < -\frac{1}{7}]$$

8. $-(-2)^2(x - 3)(x + 11) + x + 4(x - 1)(x + 2) \leq x - 16$

$$[x \geq 5]$$

9. $11x + \frac{1}{2} - 3(\frac{1}{2} - 4x) + (2x + 4)(-\frac{1}{2})^2 < x - 90$

$$[x < -4]$$

10. $-x + [2x - (3 - x)] + \frac{1}{2} - 2(\frac{1}{4} - 2x) + 7 < 11x - 5$

$$[x > \frac{9}{5}]$$

11. $\frac{x}{3} + (2x - 1)(2 + \frac{1}{8}) - \frac{13}{4}x < (1 - \frac{1}{4})^2 x - \frac{x+1}{2} + x$

$$[x < 6]$$

$$12. \frac{\frac{x+2}{3}}{\frac{1}{6}} + 2(-x + \frac{1}{4}) > (\frac{1}{2} - \frac{1}{4}x) + \frac{2x-3}{2} - \frac{2x}{3}$$

$$[x > -\frac{22}{9}]$$

$$13. 2(x^2 + 2)^2 + (x^2 - 4)^2 + x(x - 1) < 3x^4 + x^2 - x - 25$$

[impossibile]

$$14. \frac{x-1}{\sqrt{2}} - \frac{x+1}{\sqrt{2}} - \frac{1}{4}x + \frac{11}{\sqrt{2}} \geq \frac{3}{2} - (x+1)^2 + \frac{x+1}{2}(2x-1) + \frac{11}{4}x$$

$$[x \leq 3\sqrt{2}]$$

$$15. 4(x+1) - 7 + \frac{1}{2}(4x+4) - 3(x-2) \leq 3(x-2) + 11$$

$$[x \in \mathbb{R}]$$

$$16. \frac{\frac{(x-2)^2}{6}}{\frac{1}{3}} - 2(x+1) > \frac{1}{4}(x+1)(x-1) + (-\frac{1}{2}x)^2 + x + 2$$

$$[x < -\frac{7}{20}]$$

$$17. -4(2x-4)(2x+4) - x(x+1) > -(4x+1)(4x-1) - (x+2)(x-2)$$

$$[x < 59]$$

$$18. (9)^{-\frac{1}{2}}(x+1) - 4\{2x + [\frac{1}{2}x - (x+1)]\} \leq 4(2x+1)$$

$$[x \geq \frac{1}{41}]$$

$$19. -\{\frac{5}{4}x - [-x - (x - \frac{1}{4}) + 4x] - \frac{1}{2}\} + 2x - 3(x-1) > 4(1-3x) - \frac{71}{2}$$

$$[x > -3]$$

$$20. (3x-2)\frac{2}{\sqrt{3}} - (2x-3)\frac{4}{\sqrt{3}} - \frac{8}{\sqrt{3}} < (x-1)(x+1) + \frac{2}{\sqrt{3}}x(1 - \frac{\sqrt{3}}{2}x)$$

$$[x < \frac{\sqrt{3}}{4}]$$