

Equazioni intere di primo grado

Risolvi le seguenti equazioni.

1. $3x+1-x-2=x$

$[x=1]$

2. $\frac{2x+1}{3} - \frac{x+2}{2} = \frac{x}{6}$

$[impossibile]$

3. $\frac{3x+1}{2} - \frac{x+1}{3} = \frac{x}{6}$

$[x = -\frac{1}{6}]$

4. $\frac{1}{6}(2x-1) - 1 = \frac{5}{6} - \frac{2+x}{3}$

$[x=2]$

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

$[x = \frac{8}{3}]$

6. $\frac{1}{3}(x-3) - 1 = \frac{4}{3} + \frac{x}{6}$

$[x=20]$

7. $\frac{1}{2}(3x-2) - \frac{3}{2}(5-2x) = \frac{5}{2}(x-3) - \frac{1}{2}(4x-3)$

$[x = \frac{5}{8}]$

8. $1 + 3x - \frac{1}{4}x - \frac{1}{2}x = 5 + \frac{1}{4}x$

$[x=2]$

9. $x - \frac{3}{5}(x+12) - \frac{1}{5}(x-12) - \frac{1}{2}x = 1 + \frac{1}{5}(x+1)$

$[x = -12]$

10. $(-\frac{1}{2})^2 x - \frac{1}{2}(x-4) = (-\frac{1}{2})(-3) - (-\frac{1}{2})x - (-\frac{1}{2})$

$[x = -3]$

11. $4 + x - \frac{1}{4}x - 4 = -1 + \frac{7}{4}x$

$[x=1]$

$$12. 3x + 1 - \left(x - \frac{1}{3}\right) - \frac{1}{3}x - \left(2x - \frac{1}{3}\right) + 2 = \frac{2}{3}x - 3$$

$$[x = \frac{20}{3}]$$

$$13. \frac{2}{3}x - \left(\frac{1}{6}x - \frac{2}{3}\right) - \left(2 + \frac{1}{2}x\right) - \left(\frac{5}{3}x - \frac{2}{3}\right) + \left(1 + \frac{1}{2}x\right) - \left(x - \frac{2}{3}\right) - \frac{1}{6}x = \frac{5}{3}x$$

$$[x = \frac{1}{4}]$$

$$14. \frac{1}{2}x - \frac{2}{3}(x + 3) - \frac{2}{3} + \frac{3}{4}x + 1 + \frac{1}{2}x - \frac{2}{3}x + \frac{2}{3} + \frac{1}{6}x = \frac{1}{3}x$$

$$[x = 4]$$

$$15. \frac{2x-1}{2} - \frac{2}{3} \left(\frac{x-1}{2} \cdot \frac{1}{3}\right) - \left(2x + \frac{x+2}{2}\right) - \frac{2}{3} + \frac{7}{4}(x-1) = \frac{3x+2}{2} + 2(x-4) \left(\frac{2}{3} - 1\right) + \frac{1}{6}$$

$$[x = -11]$$

$$16. \frac{3x+1}{2} + \frac{3x-1}{3} = \left(-\frac{1}{2}\right)^2 \cdot (3x+1) \left(-\frac{1}{3} + 2\right) + \frac{3x+1}{3}$$

$$[x = \frac{7}{15}]$$

$$17. \frac{2x}{3} + \left[\frac{1}{2} \left(x - \frac{3}{4}\right)\right] + \left[\left(-\frac{1}{2}\right)^2\right] x = \frac{3(5x-1)}{12} + \frac{1}{6}x - \frac{1}{8}$$

[indeterminata]

$$18. \frac{x}{3-\frac{1}{2}} + (2-3x) : \left(2 - \frac{2}{3}\right) = \left(-\frac{3}{4}\right)^2 x - \frac{x+1}{2} + \frac{7}{80}x$$

$$[x = 1]$$

$$19. \frac{2}{3}x + \frac{2x-23}{6} = \left(-\frac{1}{2}\right)^2 (-2x) - 2\frac{3x+23}{3} - (x + 23\sqrt{2}) + \frac{2}{3}x$$

$$[x = -3 - 6\sqrt{2}]$$

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

$$[x = -3 - \sqrt{3}]$$