

Solve each equation algebraically and show all relevant work!

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

2. $2(x + 7) + 2x = 134$

3. $7(x + 5) = -5x - 1$

4. $x + 4x + 2x - 2 = 180$

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

6. $1.25(x + 7) + 2.75x = 28.75$

7. $100 + 50x = 480$

8. $70 + 0.12x = 127.84$

9. $0.09x + 0.12(10000 - x) = 1080$

10. $1.08(x - 3800) = 33000$

11. $60t + 65t = 400$

12. $40t = 35(t + \frac{1}{2})$

13. $36 + 2.4x = 2(20 + x)$

14. $7 = -\frac{3}{4}(x - 12)$

15. $5 - 5(5 - x) = 5(x - 1) + 2x$

16. $4 - t = t + 4$

17. $-\frac{2}{5}t = -6$

18. $2.8(1.3x - 0.9) = 1.2 - 9.97x$

19. $\frac{5}{12}x = \frac{1}{3} - x = \frac{7}{12} - \frac{x}{2}$

20. $5 = 3 + 2(n - 1)$