Algebra Review - Solving Linear Equations II

Solve the given equation:

1. $8a - 9 - 5a = 27$
2. $-8(3x + 2) = 8$
3. $\frac{y}{6} - \frac{y}{5} = \frac{2}{3} + \frac{1}{2}$
4. $3(t + 2) + t = 30$
5. $9s - 7 = 6s - 19$
6. $-x + 10 = -3x + 4$
7. $-8 + 2(y + 3) = 5y - 8$
8. $7(a + 4) - 3 = 11$
9. $\frac{x}{3} + \frac{x}{9} = 4$
10. $8(x - 7) = 2(x - 13)$
11. $\frac{a}{4} - a = 6$
12. $\frac{3}{x} - \frac{2}{5} = \frac{-1}{10}$
13. $\frac{5}{x} + 2 = \frac{1}{x}$

Solve algebraically:

14. The product of 3 and the sum of two times a number and 8 is 48. What is the number?

15. If 8 is subtracted from five times a number, the result is 77. What is the number?

16. The perimeter of a square is 24 inches. What is the length of one side?

17. The width of a rectangle is 2 feet less than its length. If the perimeter is 16 feet, what is the width?

18. Jane is 3 years younger than Ann. Five years from now the sum of their ages will be 27. How old are they now?

19. Tom is twice as old as his brother Tim. Six years ago, Tom was four times as old as his brother. How old are they now?

20. Two sides of a triangle are equal in length, and the third side is 6 inches longer. If the perimeter is 33 inches, how long are the two equal sides?

Answers:

1. $a = 12$
2. $x = -1$
3. $y = -7$
4. $t = 6$
5. $s = -4$
6. $x = -3$
7. $y = 2$
8. $a = -2$
9. $x = 9$
10. $x = 5$
11. $a = -8$
12. $x = 10$
13. $x = -2$
14. 4
15. 17
16. 6 inches
17. 5 feet
18. Ann is 10, Jane is 7
19. Tom is 18, Tim is 9
20. 9 inches