Multiply each of the following.

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

2. $(x - 5)(x + 9)$ $x^2 + 4x - 45$

3. $(2x - 3)^2$ $4x^2 - 12x + 9$

Factor each of the following.

4. $13s - 13t$ $13(s - t)$

5. $-10x^4 - 15x^6$ $-5x^4(2 + 3x^2)$

Evaluate each of the following.

7. $5 + 3 \cdot 2 - 4 \div 2$ $5 + 6 - 2 = \boxed{9}$

8. $\dfrac{(5-9)^2 + 2}{(7-8)^2 \cdot 3^2}$ $\dfrac{16+2}{1 \cdot 9} = \boxed{2}$

9. $7 - 2(4 \cdot 3 + 7)$ $7 - 2(19) = \boxed{-31}$

Evaluate the following.

14. $10 - x$ when $x = -7$ $\boxed{17}$

15. $-x^2 + 5x + 4$ when $x = -4$ $-16 - 20 + 4 = \boxed{-32}$

16. $(a - b)^2$ when $a = -6$ and $b = -3$ $(3)^2 = \boxed{9}$

Solve each of the following inequalities and graph the solution on a number line.

20. $2x - 3 < 6$ $\boxed{x < \frac{9}{2}}$

21. $-2(x - 5) \geq 3x - 11$ $-2x + 10 \geq 3x - 11$ $\boxed{x \leq \frac{21}{5}}$

22. $-\dfrac{2}{3}x - 6 < -8$ $-\frac{2}{3}x < -2$ $\boxed{x > 3}$

Simplify each of the following by combining like terms.

10. $c - 20c$ $\boxed{-19c}$

11. $7y - 6(x - 3y)$ $7y - 6x + 18y$ $\boxed{-6x + 25y}$

12. $6a - 8(4a - 7)$ $6a - 32a + 56$ $\boxed{-26a + 56}$

13. $-2(c - d) + (c - d) - 6(c - d)$ $-2c + 2d + c - d - 6c + 6d$ $\boxed{-7c + 7d}$

Solve each literal equation for x.

17. $h = dx + t$ $\boxed{x = \dfrac{h - t}{d}}$

18. $Bx + Ay = E$ $\boxed{x = \dfrac{-Ay + E}{B}}$

19. $e = bx^2$ $\boxed{x = \pm\sqrt{\dfrac{e}{b}}}$

Solve each of the following equations for x.

23. $\dfrac{5x - 4}{3} = 2(4x - 7)$ $5x - 4 = 6(4x - 7)$ $-19x = -38$ $\boxed{x = 2}$

24. $\dfrac{5(3x + 2)}{8} = \dfrac{3(2x - 1)}{4}$ $5(3x + 2) = 6(2x - 1)$ $3x = -16$ $\boxed{x = \dfrac{-16}{3}}$

25. $8x - 3(2x + 6) = 6x + 15$ $8x - 6x - 18 = 6x + 15$ $-4x = 33$ $\boxed{x = \dfrac{-33}{4}}$

PLEASE WORK ON THIS ASSIGNMENT ON A SEPARATE SHEET OF PAPER OR NO CREDIT.