1. $50 - 4(3 + 8) = 50 - 4(11) = 50 - 44 = 6$

2. $|-7| = 7$ and $|13 - 4| = |9| = 9$.

3. $\dfrac{5}{8} + \left(-\dfrac{17}{12}\right) = \dfrac{5}{8} - \dfrac{17}{12} = \dfrac{15}{24} - \dfrac{34}{24} = \dfrac{-19}{24} = -\dfrac{19}{24}$.

4. $-\dfrac{5}{6} - \dfrac{1}{2} = -\dfrac{5}{6} - \dfrac{3}{6} = \dfrac{-5 - 3}{6} = \dfrac{-8}{6} = -\dfrac{4}{3}$.

5. $\dfrac{8(-1) + 6(-2)}{-6 - (-1)} = \dfrac{-8 + (-12)}{-6 + 1} = \dfrac{-20}{-5} = 4$.

6. $(5x - 2y)(-2a) = [5(6) - 2(-4)][-2(3)] = (30 + 8)(-6) = (38)(-6) = -228$.

7. $7(2v) + 7(5r) = 7(2v + 5r)$

8. $-(-3q + 5r - 8s) = 3q - 5r + 8s$.

9. $2y^2 - 7y^3 - 4y^2 + 10y^3 = -2y^2 + 3y^3$

10a. $4x - 3 - 8x + 1 = -5x + 9 \;\Rightarrow\; -4x - 2 = -5x + 9 \;\Rightarrow\; x - 2 = 9 \;\Rightarrow\; x = 11$

10b. $\dfrac{2}{7}z = 4 \;\Rightarrow\; \dfrac{7}{2} \cdot \dfrac{2}{7}z = \dfrac{7}{2} \cdot 4 \;\Rightarrow\; z = \dfrac{28}{2} \;\Rightarrow\; z = 14$

10c. $6(4x - 1) = 12(2x + 3) \;\Rightarrow\; 24x - 6 = 24x + 36 \;\Rightarrow\; -6 = 36$, which is a contradiction and therefore there is no solution.

10d. $3(4m - 2) + 5m = 30 - m \;\Rightarrow\; 12m - 6 + 5m = 30 - m \;\Rightarrow\; 18m = 36 \;\Rightarrow\; m = 2$

10e. $6 \cdot \left[\dfrac{1}{3}(x + 3) + \dfrac{1}{6}(x - 6)\right] = 6 \cdot (x + 3) \;\Rightarrow\; 2(x + 3) + (x - 6) = 6(x + 3) \;\Rightarrow\; 2x + 6 + x - 6 = 6x + 18 \;\Rightarrow\; -3x = 18 \;\Rightarrow\; x = -6$

11. Interval notation: $(-\infty, -10]$.

12a. $-7x > 49 \;\Rightarrow\; x < -7$ (divide by -7 & reverse inequality sign). Interval notation: $(-\infty, -7)$.

12b. $5r + 1 \geq 3r - 9 \;\Rightarrow\; 2r \geq -10 \;\Rightarrow\; r \geq -5$. Interval notation: $[-5, \infty)$.

12c. $5x + 15 - 6x > 6x + 3 - 4x \;\Rightarrow\; -x + 15 > 2x + 3 \;\Rightarrow\; -3x > -12 \;\Rightarrow\; x < 4$. Interval notation: $(-\infty, 4)$.

13a. $V = LWH \;\Rightarrow\; L = \dfrac{V}{WH}$ 　　　**13b.** $Ax + By = C \;\Rightarrow\; By = C - Ax \;\Rightarrow\; y = \dfrac{C - Ax}{B}$