Chapter 3 Review

1. Write an equation or inequality and solve:
   - a) The product of 4 and m increased by 4 is greater than 44.

   - b) 6 times a number less than 8 is 72.

2. Multiply $(y - 6)(y + 3)$

3. Graph $2 < x \leq 6$

4. a) Add $3x^2 + 9x - 5$ and $7x^2 - 12x - 6$

   - b) Subtract the terms from part a.

5. Simplify $3a^5(6a^4 - 2a^3b)$

6. Find the quotient of $(8m^4 + 12m^3 + 2m)$ and $2m$

7. Solve $7x - 8 = 10 + 4x$

8. Solve $ax + n = m$ for x

9. Solve the following systems of equations:
$$5x - 2y = 10$$
$$2x + y = 31$$

10. Write a system of equations and solve by elimination or substitution. Remember to use let statements.

Twice one integer plus 3 times a second integer equals 9. Five times the first integer plus 4 times the second integer equals 5. What are the numbers?

11. Solve for x: $\dfrac{4x + 5}{6} \quad \dfrac{7}{2}$

12. Solve for x: $\dfrac{2x - 3}{4} \quad \dfrac{x - 2}{3}$