

Algebra 1
Unit 7 Worksheet 1

Name: _____

Date: _____

Period: _____

Directions: Please answer the following questions. **Show work!!**

Factor completely.

1. $3x^2 + 14x + 8$

2. $2x^2 - 24x - 128$

3. $49z^2 - 4$

4. $9x^2 + 25$

Simplify.

5. $(6x - 4 + 7x^2) - (-2x^2 + 1 - 5x)$

6. $(6 + 3x)(2 - 4x)$

7. $4x^3(2x^4 - 7x^3 + 8x - 10)$

8. $3 + 11x - 3x^2 + 12 - 8x - 10x^2$

Simplify. **Must show work!**

9. $\sqrt{405}$

10. $\sqrt[3]{500}$

11. $\sqrt[3]{384x^6y^8z^{10}}$

12. Solve the system using any method.

$$\begin{cases} x - 3y = -12 \\ 2x + 4y = 36 \end{cases}$$

13. Solve the system using any method.

$$\begin{cases} 2x + 7y = 2 \\ 3x + y = -16 \end{cases}$$

14. Is (2,-1) a solution to the system

$$\begin{cases} 3x - y = 7 \\ 5x - 2y = 12 \end{cases}$$

15. Is (3,5) a solution to the system

$$\begin{cases} 2x - y = 1 \\ x - y = 8 \end{cases}$$

16. Simplify $(9ab^6)^2$

17. Simplify $\left(\frac{4xy^2}{x^4}\right)^3$