

Simplifying n^{th} Roots Worksheet

Name _____

Date 4/10/14

Simplify each radical.

1. $\sqrt[3]{168}$

2. $\sqrt[3]{72}$

3. $\sqrt[4]{3750}$

4. $\sqrt[3]{64n^7}$

5. $\sqrt[3]{512x^9}$

6. $\sqrt[3]{-16p^8}$

7. $\sqrt[7]{-512m^8n^9}$

8. $\sqrt[3]{0.04x^7y^4z^3}$

9. $\sqrt[4]{96a^4b^{11}}$

Solve the following equations. Check for extraneous solutions, if applicable.

10. $x^2 - 2x - 3 = 0$

11. $3x^2 = 147$

12. $x^4 + 3x^3 - 35x^2 - 39x + 70 = 0$

13. $x^3 - 2x^2 - 14x + 40 = 0$

Solve each system of equations. If you choose to use inverse matrices, write the matrix equation.

14.
$$\begin{cases} 4x - y = 17 \\ 3x + 2y = -1 \end{cases}$$

15.
$$\begin{cases} 4x + 7y = 17 \\ 2x - y = 14 \end{cases}$$

16.
$$\begin{cases} 2x - 3y + 2z = 9 \\ x - 4y - 3z = -1 \\ 3x - 2y - 3z = -1 \end{cases}$$

17.
$$\begin{cases} 2x + 3y = -6 \\ 3x - 9z = 0 \\ 5y - 2z = 2 \end{cases}$$