Lesson 6.6 Worksheet

Name: _____

Solve the equation. Remember that you can check your solution.

1.) $\sqrt{3x + 10} = 8$

2.) $-2\sqrt{24x} + 13 = -11$

3.) $\sqrt{-2x + 3} - 2 = 10$

4.) $\left(\frac{1}{3}x - 11\right)^{1/2} = 5$

5.) $\sqrt[3]{12x} - 13 = -7$

6.) $\sqrt[3]{4x + 2} - 6 = -10$

7.) $-4\sqrt[3]{x + 10} + 3 = 15$

8.) $(x + 4)^{1/3} - 2 = -6$

9.) $9x^{3/5} = 72$

10.) $(16x)^{3/4} + 44 = 556$

11.) $(3x + 5)^{7/3} + 22 = 150$

Solve the equation. Check for extraneous solutions.

12.) $\sqrt[3]{12x - 5} - \sqrt[3]{8x + 15} = 0$

13.) $x = \sqrt{16x + 225}$

14.) $x - 6 = \sqrt{3x}$

15.) $\sqrt{44 - 2x} = x - 10$

16.) $\sqrt{3x - 8} + 1 = \sqrt{x + 5}$

17.) $\sqrt{2x + 3} + 2 = \sqrt{6x + 7}$

18.) The length l (in inches) of a standard nail can be modeled by $l = 54d^{3/2}$ where d is the diameter (in inches) of the nail. What is the diameter of a standard nail that is 3 inches long?