

KEY

### 1.4 Rational Exponent Equations WS

Solve each equation.

1.  $x^{1/3} = 2$

$$x = 8$$

2.  $x^{1/2} = 5$

$$x = 25$$

3.  $x^{2/5} = 9$

$$x = \pm 243$$

4.  $x^{4/3} = 81$

$$x = \pm 27$$

5.  $3x^{2/3} - 16 = 59$

$$x = \pm 125$$

6.  $4x^{4/5} - 27 = 37$

$$x = \pm 32$$

7.  $4x^{3/4} - 31 = 77$

$$x = 81$$

8.  $4x^{4/5} + 54 = 378$

$$x = \pm 243$$

Solve each equation. Remember to check for extraneous solutions.

9.  $2 - \sqrt{4-x} = \sqrt{3x}$

$$x = 0$$

10.  $\sqrt{2x-6} = x-3$

$$x = 3, 5$$

$$11. 2 - \sqrt{4-4x} = \sqrt{-2-2x}$$

$\emptyset$

$$12. \sqrt{16-x} = \sqrt{x-10}$$

$$X = 13$$

$$13. x-4 = \sqrt{3x-2}$$

$$X = 9$$

$$14. -1 + \sqrt{-1-5x} = \sqrt{3x+10}$$

$$X = -2$$