

## Radical Equations

### Rational Exponent Equations

Solve for x

1.  $x - \sqrt{2x + 3} = 0$

2.  $x - \sqrt{3x + 18} = 0$

3.  $\sqrt{3x + 7} = 3x + 5$

4.  $\sqrt{4x + 13} = 2x - 1$

5.  $\sqrt{4x + 5} - 2 = 2x - 7$

6.  $\sqrt{6x + 7} - 1 = x + 1$

7.  $\sqrt{x} - \sqrt{x - 5} = 1$

8.  $\sqrt{x} - \sqrt{x - 12} = 2$

9.  $\sqrt[3]{4x + 3} = \sqrt[3]{2x - 1}$

10.  $\sqrt[3]{2x} = \sqrt[3]{5x + 2}$

11.  $\sqrt[3]{5x^2 - 6x + 2} - \sqrt[3]{x} = 0$

12.  $\sqrt[3]{3x^2 - 9x + 8} = \sqrt[3]{x}$

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

14.  $\sqrt[4]{4x + 5} = 2$

15.  $\sqrt[4]{x^2 + 2x} = \sqrt[4]{3}$

16.  $\sqrt[4]{x^2 + 5x} = \sqrt[4]{6}$

17.  $x^{\frac{3}{2}} = 8$

18.  $x^{\frac{3}{2}} = 27$

19.  $x^{\frac{3}{2}} = -27$

20.  $x^{\frac{3}{2}} = -8$

21.  $x^{\frac{2}{3}} = 25$

22.  $x^{\frac{2}{3}} = 49$

23.  $x^{\frac{3}{4}} = 64$

24.  $x^{\frac{3}{4}} = 125$

25.  $x^{\frac{4}{3}} = 16$

26.  $x^{\frac{4}{3}} = 625$

27.  $(x + 5)^{\frac{2}{3}} = 16$

28.  $(x - 7)^{\frac{2}{3}} = 36$

29.  $(x - 8)^{\frac{3}{2}} = -64$

30.  $(x + 8)^{\frac{3}{2}} = -125$

31.  $(x + 3)^{\frac{3}{4}} - 7 = 118$

32.  $(x + 3)^{\frac{3}{4}} - 7 = -34$

33.  $(x - 4)^{\frac{2}{5}} + 8 = 57$

34.  $(x + 6)^{\frac{2}{5}} + 7 = 107$