

1.4 Radical Equations WS

Solve each equation. Remember to check for extraneous solutions.

1) $\sqrt{4v-3} = \sqrt{2v+3}$

$$v=3$$

2) $1 + \sqrt{3v-2} = \sqrt{4v+1}$

$$v=6, 2$$

3) $\sqrt{7-x} - \sqrt{10-x} = -1$

$$x=6$$

4) $\sqrt{2r-1} = -1 - \sqrt{3r-3}$

$$\text{No Solution}$$

5) $n = \sqrt{8n}$

$$n=0, 8$$

6) $\sqrt{2k-11} = k-5$

$$k=6$$

$$7) \frac{5}{3n} = \frac{n+5}{6n} + \frac{1}{n}$$

$$n = -1$$

$$8) \frac{3}{2x} = \frac{x+3}{2x^2} + \frac{1}{2x}$$

$$x = 3$$

$$9) \frac{r^2 + 9r + 20}{r^2 - 3r} - \frac{r-3}{r} = \frac{1}{r^2 - 3r}$$

$$r = -\frac{2}{3}$$

$$10) \frac{x^2 + 6x + 8}{x-3} + \frac{x+1}{x-3} = x+1$$

$$x = \frac{-4}{3}$$

Solve the polynomial equation.

$$11) x^4 + 7x^2 + 6 = 0$$

$$x = \pm i, \pm i\sqrt{6}$$

$$12) x^3 - 27 = 0$$

$$x = 3, \frac{-3 \pm 3i\sqrt{3}}{2}$$

$$13) x^3 - 2x^2 + 5x - 10 = 0$$

$$x = 2, \pm i\sqrt{5}$$

$$14) x^3 + 4x^2 - x - 4 = 0$$

$$x = -4, 1, -1$$