

Solving Equations with Indices

Solve

(a) $\sqrt{x} = 2$ (b) $5\sqrt[3]{x} = 3$

(c) $\sqrt{x} = \frac{16}{\sqrt{x}}$ (d) $x = \frac{27}{\sqrt{x}}$

(e) $2\sqrt{x} = \frac{64}{x^2}$ (f) $\frac{4}{\sqrt[3]{x}} = \frac{x}{4}$

(a) $x = 4$ (b) $x = \frac{27}{125}$

(c) $x = 16$ (d) $x = 9$

(e) $x = 4$ (f) $x = 8$

Solve

(a) $x^{1/3} = -2$ (b) $5x^{1/2} - 2 = 13$

(c) $\frac{x^{3/2}}{20} = 6\frac{1}{4}$ (d) $x^{1/2} = \frac{9}{4x^{3/2}}$

(e) $x^{-2} = \frac{1}{36}$ (f) $48x^{-1/4} - 3 = 0$

(a) $x = -8$ (b) $x = 9$

(c) $x = 25$ (d) $x = \pm \frac{3}{2}$

(e) $x = \pm 6$ (f) $x = 16$

Solve

(a) $(\sqrt{x} - 1)(\sqrt{x} - 5) = 0$

(b) $(\sqrt{x})^2 - 4\sqrt{x} + 3 = 0$

(c) $x - 7\sqrt{x} + 10 = 0$

(d) $8\sqrt{x} = x + 12$

(e) $8 - \frac{15}{\sqrt{x}} = \sqrt{x}$

(f) $4 - 2\sqrt{x} = \frac{2}{\sqrt{x}}$

(a) $x = 1$ or $x = 25$

(b) $x = 9$ or $x = 1$

(c) $x = 4$ or $x = 25$

(d) $x = 36$ or $x = 4$

(e) $x = 9$ or $x = 25$

(f) $x = 1$

Solve

(a) $(x^2 - 9)(x^2 - 1) = 0$

(b) $x^4 - 6x^2 + 8 = 0$

(c) $x^2 + \frac{4}{x^2} = 5$

(d) $x^6 - 27 = 26x^3$

(e) $x^3 = 7 + \frac{8}{x^3}$

(a) $x = \pm 3$ or $x = \pm 1$

(b) $x = \pm 2$ or $x = \pm \sqrt{2}$

(c) $x = \pm 2$ or $x = \pm 1$

(d) $x = -1$ or $x = 3$

(e) $x = 2$ or $x = -1$