# Algebra Problem Set 3

**Solve for $x$.**

$2x^2 + 6x - 10 = 0$

$5x^2 - 2x - 1 = 0$

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

$\sqrt{3x + 9} = 4$

$\sqrt{5x - 2} = 7$

$2^{x+2} = 16$

$5^{x-3} = 125$

$3^{x+4} = 81$

$x^3 + 6x^2 - 3x - 18 = 0$

$4x^3 - 3x^2 + 5x - 10 = 0$

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

$\sqrt[3]{3x - 3} = 5$

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

$\sqrt[4]{5x - 1} = 6$

$2^{2x-1} - 8 = 0$

$5^{x+3} - 125 = 0$

$3^{x+1} - 9 = 0$

$6^{x+2} - 216 = 0$

$4^{2x-1} - 16 = 0$

$3x^2 - 7x + 2 = 0$

$3x^2 - 5x - 8 = 0$

$6x^2 + 3x - 4 = 0$

$5x^2 - 7x + 3 = 0$

$\sqrt{2x - 3} = 5$

$\sqrt{3x - 4} = 8$

$3^{x-1} = 27$

$6^{x+1} = 216$

$4^{2x-2} = 16$

$2x^3 - 7x^2 + 4x + 9 = 0$

$x^3 + 2x^2 - x - 2 = 0$

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

$\sqrt[3]{4x + 5} = 6$

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

$\sqrt[4]{2x + 3} = 7$

$3^{x+2} - 27 = 0$

$6^{2x-2} - 36 = 0$

$4^{x-2} - 16 = 0$

$2^{2x-4} - 1 = 0$

$5^{x+4} - 625 = 0$

$\sqrt{2x + 5} = 6$

$4x^2 + 7x + 1 = 0$

$2x^2 - 5x + 2 = 0$

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

$\sqrt{4x + 1} = 6$

$\sqrt{6x + 5} = 3$

$4^{x+3} = 64$

$2^{2x-3} = 8$

$5^{x+5} = 625$

$3x^3 + x^2 - 2x - 6 = 0$

$3x^3 - 5x^2 + 4x + 8 = 0$

$\sqrt[3]{x + 4} = 4$

$\sqrt[3]{2x - 1} = 7$

$\sqrt[4]{4x + 1} = 5$

$\sqrt[4]{3x - 2} = 8$

$4^{x-1} - 64 = 0$

$2^{2x+1} - 4 = 0$

$5^{2x-3} - 25 = 0$

$3^{x+3} - 81 = 0$

$2x^2 + 5x - 3 = 0$

$\sqrt{3x - 4} = 7$