

1	Solve for x : $6x^2 = 1 - x$
2	Solve for x : $2x^2 - 9x + 10 = 0$
3	Solve for x : $(3x + 1)^2 - 4 = 0$
4	Solve for x : $(2x - 1)^2 + 5 = 0$
5	Solve for x : $2x^2 = 5x$
6	Solve by completing the square: $x^2 - 10x + 2 = 0$
7	Solve using the quadratic formula: $2x^2 - 5x - 10 = 0$
8	Find the discriminant and determine the type of roots: A) $4x^2 - 4x + 1$ B) $3x^2 - 2x + 1$ C) $5x^2 + 10x + 1$ D) $x^2 - 4x - 5$
9	Solve for x : $x^4 + 2x^3 = 15x^2$
10	Find the real solutions of: $x^3 - 8 = 0$
11	Solve for x : $\frac{x}{x-4} - \frac{4}{x+4} = \frac{8x}{x^2-16}$
12	Solve for x : $\sqrt[3]{3x-1} = 5$
13	Solve for x : $x - \sqrt{6x+7} = 0$
14	Solve for x : $\sqrt{3y+1} = y - 1$
15	Solve for x : $\sqrt{2y+9} = 2 + \sqrt{y+1}$
16	Solve for x : $(2x+1)^{3/2} = 27$
17	Solve for x : $(3x-1)^{2/3} - 1 = 8$
18	Solve for x : $x - 3\sqrt{x} + 2 = 0$
19	Solve for x : $x^{2/5} + x^{1/5} - 2 = 0$
20	Solve for x : $(3x+1)^2 + 2(3x+1) - 15 = 0$
21	Solve for x : $(2\sqrt{t}+1)^2 - 2(2\sqrt{t}+1) - 3 = 0$
22	$3 - 2(5 - 3x) < 2x - 4$
23	$\frac{2x+1}{3} \leq \frac{x}{4} + 1$ or $\frac{3-x}{2} > \frac{x}{3} - 1$
24	$-5 < \frac{1-2x}{3} < 4$
25	$3 5 - 2x - 1 = 7$
26	$ 2x - 1 = 5x + 7 $
27	$ 3x - 5 = x + 2$
28	$ 2x + 1 + 1 < 14$
29	$ x + 5 > 15$
30	$\frac{ x-1 }{2} > \frac{2}{3}$
31	Simplify: i^{27}
32	Multiply: $(3i + 1)(2i - 5)$
33	Divide: $\frac{3+2i}{5-i} =$
34	Solve for x : $\frac{x^2-5x}{x-2} \leq 0$
35	Solve for x : $x^4 \geq 25x^2$

	Answers
1	$x = \frac{1}{3}; x = -\frac{1}{2}$
2	$x = \frac{5}{2}; x = 2$
3	$x = \frac{1}{3}; x = -1$
4	$x = \frac{1}{2} \pm \frac{\sqrt{5}}{2}i$
5	$x = 0; x = 5/2$
6	$x = 5 \pm \sqrt{23}$
7	$\frac{5 \pm \sqrt{105}}{4}$
8	A) 0; <i>one rational root</i> B) -8; <i>no real roots (complex roots)</i> C) 80; <i>two real roots (not rational)</i> D) 36; <i>two rational roots</i>
9	$x = 0; x = -5; x = 3$
10	$x = 2$
11	No solution
12	$x = 42$
13	$x = 7$
14	$y = 5$
15	$y = 0; y = 8$
16	$x = 4$
17	$x = \frac{28}{3}; x = -\frac{26}{3}$
18	$x = 4; x = 1$
19	$x = -32; x = 1$
20	$x = -2; x = \frac{2}{3}$
21	$t = 1$
22	$x < \frac{3}{4}$
23	$x \leq \frac{8}{5}$ OR $x < 3 \rightarrow x < 3$
24	$-\frac{11}{2} < x < 8$
25	$x = \frac{7}{6}; x = \frac{23}{6}$
26	$x = -\frac{8}{3}; x = -\frac{6}{7}$
27	$x = \frac{7}{2}; x = \frac{3}{4}$
28	$-7 < x < 6$
29	$x > 10$ OR $x < -20$
30	$x > 2$ OR $x < -\frac{2}{3}$
31	$-i$
32	$-11 - 13i$
33	$\frac{1}{2} + \frac{1}{2}i$
34	$x \leq 0, 2 < x \leq 5$
35	$x \leq -5, x = 0, x \geq 5$