Algebra **REVIEW 10.4 - 10.7** Name Key

SECTION 10.4

Solve the equation. Round solutions to the nearest hundredth, if necessary.

$4b^2 - 13 = 3$

$\frac{4b^2}{4} = \frac{16}{4}$

$b^2 = 4$

$b = \pm 2$

$9x^2 = 25$

$\frac{9x^2}{9} = \frac{25}{9}$

$\sqrt{x^2} = \sqrt{\frac{25}{9}}$

$x = \pm\frac{5}{3} = \pm 1.67$

$5n^2 - 17 = -19$

$5n^2 = -2$

$\sqrt{n^2} = \sqrt{\frac{-2}{5}}$

no solution

$\sqrt{(x-7)^2} = \sqrt{6}$

$x - 7 = \pm 2.45$

$x - 7 = 2.45 \quad x - 7 = -2.45$

$x = 9.45 \quad x = 4.55$

$7(x-3)^2 = 35$

$\frac{7(x-3)^2}{7} = \frac{35}{7}$

$\sqrt{(x-3)^2} = \sqrt{5}$

$x - 3 = \pm 2.24$

$x = 5.24, .76$

$11x^2 + 3 = 5(4x^2 - 3)$

$11x^2 + 3 = 20x^2 - 15$

$9x^2 - 18 = 0$

$\frac{9x^2}{9} = \frac{18}{9}$

$\sqrt{x^2} = \sqrt{2}$

$x = \pm 1.41$

SECTION 10.5

Find value of c that makes the expression a perfect square trinomial. Then write the expression as the square of a binomial.

$x^2 + 6x + c$

$x^2 + 6x + (3)^2$

$(x+3)^2$

$x^2 - 3x + c$

$x^2 - 3x + (\frac{3}{2})^2$

$(x - \frac{3}{2})^2$

$x^2 + 2.4x + c$

$x^2 + 2.4x + (1.2)^2$

$(x+1.2)^2$

Solve the equation by completing the square. Round to the nearest hundredth, if necessary.

$x^2 + 12x = 28$

$x^2 + 12x + (6)^2 = 28 + (6)^2$

$\sqrt{(x+6)^2} = \sqrt{64}$

$x + 6 = \pm 8$

$x = -14, 2$

$m^2 - 8m = -12$

$m^2 - 8m + (-4)^2 = -12 + (-4)^2$

$\sqrt{(m-4)^2} = \sqrt{4}$

$m - 4 = \pm 2$

$m = 6, 2$

$2x^2 + 4x + 12 = 0$

$\frac{2x^2 + 4x + 6 = 0}{2}$

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

$x^2 + 2x + (1)^2 = -6 + (1)^2$

$\sqrt{(x+1)^2} = \sqrt{-5}$

no solution

SECTION 10.6

Use the quadratic formula to solve the equation. Round your solutions to the nearest hundredth, if necessary.

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

$a=2$, $b=3$, $c=-8$

$x = \dfrac{-3 \pm \sqrt{9 - (4 \cdot 2 \cdot -8)}}{2 \cdot 2}$ (-64)

$\dfrac{-3 \pm \sqrt{73}}{4}$

$\dfrac{-3+8.54}{4}$ $\quad$ $\dfrac{-3-8.54}{4}$

$x = 1.39$, $x = -2.89$

$6x^2 - 6 = -5x$

$6x^2 + 5x - 6 = 0$

$a=6$, $b=5$, $c=-6$

$x = \dfrac{-5 \pm \sqrt{25 - (4 \cdot 6 \cdot -6)}}{2 \cdot 6}$ (-144)

$x = \dfrac{-5 \pm \sqrt{169}}{12}$

$x = \dfrac{-5+13}{12}$ $\quad$ $x = \dfrac{-5-13}{12}$

$x = .6$, $x = -1.5$

SECTION 10.7

Tell whether the equation has two solutions, one solution, or no solutions.

$-2b^2 + 8b - 4 = 0$

$a=-2$, $b=8$, $c=-4$

$64 - (4 \cdot -2 \cdot -4)$

$64 - 32$

32

two solutions

$2g^2 + 3 = 4g$

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

$a=2$, $b=-4$, $c=3$

$(-4)^2 - (4 \cdot 2 \cdot 3)$

$16 - 24$

-8

no solution

$8x^2 + 9 = 4x^2 - 4x + 8$

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

$a=4$, $b=4$, $c=1$

$16 - (4 \cdot 4 \cdot 1)$

$16 - 16$

0

one solution

Find the number of x - intercepts of the graph of the equation.

$y = x^2 + 14x + 49$

$a=1$, $b=14$, $c=49$

$14^2 - (4 \cdot 1 \cdot 49)$

$196 - 196$

0

one x-intercept

$y = 2x^2 - x - 1$

$a=2$, $b=-1$, $c=-1$

$(-1)^2 - (4 \cdot 2 \cdot -1)$

$1 - (-8)$

9

two x-ints.

$y = 6x^2 + x + 2$

$a=6$, $b=1$, $c=2$

$1^2 - (4 \cdot 6 \cdot 2)$

$1 - (48)$

-47

no x-ints.