

Name: Key

Date: _____

Class Number: _____

<p>1. Solve the following quadratic equation by factoring. $x^2 + 8x + 7 = 0$</p> <p>$(x+7)(x+1) = 0$</p> <p>$x+7=0$ $x+1=0$ $-7 \quad -1$ $-1 \quad -1$ $x = -7$ $x = -1$</p> <p>$x = \{-7, -1\}$</p>	<p>2. Solve the following quadratic equation by factoring. $2x^2 - 7x + 3 = 0$</p> <p>$x^2 - 7x + 6 = 0$</p> <p>$(x-6)(x-1) = 0$</p> <p>$(x-3)(2x-1) = 0$</p> <p>$x-3=0$ $2x-1=0$ $+3 \quad +3$ $2x=1$ $x=3$ $x=1/2$</p> <p>$x = \{1/2, 3\}$</p>
<p>3. Solve the following quadratic equation by quadratic formula. $3x^2 - 10x + 5 = 0$</p> <p>$a=3$ $b=-10$ $c=5$</p> <p>$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$</p> <p>$x = \frac{-(-10) \pm \sqrt{(-10)^2 - 4(3)(5)}}{2(3)}$</p> <p>$x = \frac{10 \pm \sqrt{100 - 60}}{6}$</p> <p>$x = \frac{10 \pm \sqrt{40}}{6} \rightarrow x = \frac{10 - \sqrt{40}}{6} = 0.613$</p> <p>$x = \frac{10 + \sqrt{40}}{6} = 2.72$</p> <p>$x = \{0.613, 2.72\}$</p>	<p>4. Solve the following quadratic equation by quadratic formula. $x^2 - 6x + 25 = 0$</p> <p>$a=1$ $b=-6$ $c=25$</p> <p>$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4(1)(25)}}{2(1)}$</p> <p>$x = \frac{6 \pm \sqrt{36 - 100}}{2}$</p> <p>$x = \frac{6 \pm \sqrt{-64}}{2}$</p> <p>$x = \frac{6 \pm 8i}{2}$</p> <p>$x = \frac{6+8i}{2} = 3+4i$ $x = \frac{6-8i}{2} = 3-4i$</p> <p>$x = \{3-4i, 3+4i\}$</p>
<p>5. Solve the following quadratic equation by completing the square. $x^2 - 18x + 72 = 0$</p> <p>$x^2 - 18x = -72$</p> <p>$x^2 - 18x + 81 = -72 + 81$</p> <p>$(x-9)(x-9) = 9$</p> <p>$(x-9)^2 = 9$</p> <p>$\sqrt{(x-9)^2} = \pm \sqrt{9}$</p> <p>$x-9 = \pm 3$</p> <p>$x = \pm 3 + 9$</p> <p>$x = 3+9 = 12$ $x = -3+9 = 6$</p> <p>$x = \{6, 12\}$</p>	<p>6. Solve the following quadratic equation by completing the square. $4x^2 - 8x - 32 = 0$</p> <p>$\frac{4x^2}{4} - \frac{8x}{4} - \frac{32}{4} = \frac{0}{4}$</p> <p>$x^2 - 2x - 8 = 0$</p> <p>$x^2 - 2x = 8$</p> <p>$x^2 - 2x + 1 = 8 + 1$</p> <p>$(x-1)(x-1) = 9$</p> <p>$(x-1)^2 = 9$</p> <p>$\sqrt{(x-1)^2} = \pm \sqrt{9}$</p> <p>$x-1 = \pm 3$</p> <p>$x = \pm 3 + 1$</p> <p>$x = 3+1 = 4$ $x = -3+1 = -2$</p> <p>$x = \{-2, 4\}$</p>