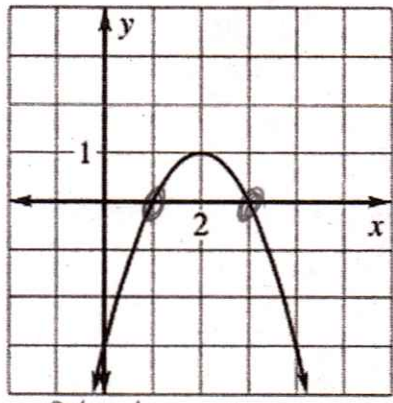
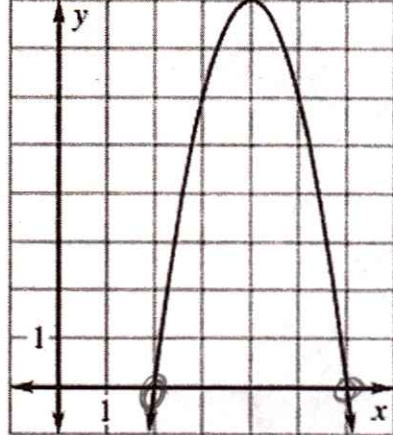
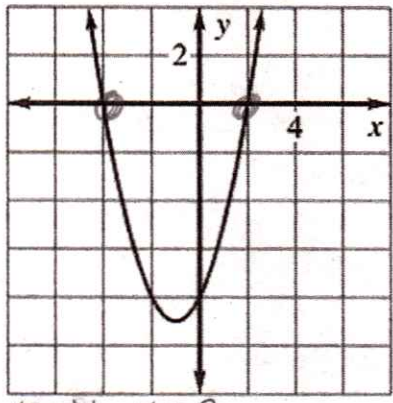
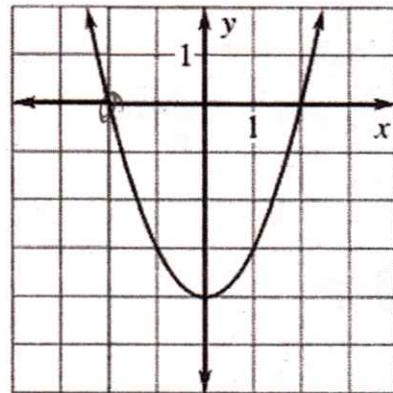


What you need to know & be able to do	Things to remember	Examples	
<p>1. Solve a quadratic function by graphing</p>	<p>Determine where the graph crosses the x-axis.</p> <p>Solution is written as $x = \underline{\hspace{2cm}}$.</p> <p>Solutions are called: x-intercepts zeros roots</p>	<p>a. Solve by graphing</p>  <p>$x = 1$ $x = 3$</p>	<p>b. Solve by graphing</p>  <p>$x = 2$ $x = 6$</p>
<p>2. Determine the equation of a parabola using its zeros.</p>	<p>The zeros and factors in the equation have opposite signs.</p>	<p>a. Create an equation, in factored form, to represent the following graph.</p>  <p>$x = -4$ $x = 2$ $y = (x + 4)(x - 2)$</p>	<p>b. Create an equation, in factored form, to represent the following graph.</p>  <p>$x = -2$ $x = 2$ $y = (x + 2)(x - 2)$</p>
<p>3. Solve equations in factored form.</p>	<p>Zero Product Property</p>	<p>a. Solve $(x - 7)(x + 3) = 0$</p> <p>$x = 7$ $x = -3$</p>	<p>b. Solve: $(x - 4)(5x - 7) = 0$</p> <p>$x = 4$ $x = \frac{7}{5}$</p>
<p>4. Solve equations by factoring when $a = 1$.</p>		<p>a. Solve $x^2 - 9x + 20 = 0$</p> <p>$x = 4$ $x = 5$</p>	<p>b. Solve $x^2 - 6x - 16 = 0$</p> <p>$x = -2$ $x = 8$</p>

		c. $x^2 - 13x + 47 = 7$ $x = 5$ $x = 8$	d. $x^2 - 100 = 0$ $x = 10$ $x = -10$	
5. Solve equations by factoring when a is not 1		a. Solve $5x^2 - 16x + 12 = 0$ $x = 2$ $x = \frac{6}{5}$	b. Solve $3x^2 - 18x + 15 = 0$ $x = 1$ $x = 5$	
		c. Solve $3x^2 + 2x - 8 = 0$ $x = \frac{4}{3}$ $x = -2$	d. $6x^2 - 5x - 11 = -5$ $x = -\frac{2}{3}$ $x = \frac{3}{2}$	
		6. Solve equations by factoring GCF Use factoring by GCF when you have two terms (a & b) and both contain an x. One of the solutions will always be 0.	a. $x^2 - 4x = 0$ $x = 0$ $x = 4$	b. $12x^2 = -36x$ $x = 0$ $x = -3$
		7. Solve equations by finding square roots. Use solving by square roots when your equations have parenthesis or two terms (a & c). PEMDAS (backwards)	a. $x^2 = 12$ $x = \pm 2\sqrt{3}$	b. $8x^2 = 392$ $x = 7$ $x = -7$
		c. $7x^2 - 3 = 445$ $x = 8$ $x = -8$	d. $(x - 4)^2 = 9$ $x = 1$ $x = 7$	

		e. $2(x+2)^2 = 72$ $x = -8$ $x = 4$	f. $3(x-3)^2 + 2 = 26$ $x = 3 \pm 2\sqrt{2}$
8. Solve equations by completing the square	Move the c term to the right side Use $\left(\frac{b}{2}\right)^2$ to complete the square and then apply square root method	a. Solve $x^2 + 4x + 11 = 10$ $x = -2 \pm \sqrt{3}$	b. Solve $x^2 - 16x + 52 = 0$ $x = 8 \pm 2\sqrt{3}$
9. Solve equations by using Quadratic Formula	Use Q.F. when the equation is in standard form and number diamonds does not work. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	a. $x^2 + 10x + 15 = 0$ $x = -5 \pm \sqrt{10}$	b. $2x^2 + 10x = 1$ $x = \frac{-5 \pm 3\sqrt{3}}{2}$
		c. $3x^2 + 6x + 3 = 0$ $x = -1$	d. $8x^2 - 4x + 7 = 2$ not factorable

10. Use the discriminant to determine the number of solutions	Discriminant: $b^2 - 4ac$ If the discriminant is: Positive: two real Zero: one real Negative: zero real	a. Calculate the discriminant and tell number of solutions: $6x^2 + 2x + 1 = 0$ $D: -20$ no real solutions	b. Calculate the discriminant and tell how many times it will cross the x-axis. $6x^2 - 7x - 3 = 0$ $D: 121$ 2 real solutions
11. Determine the best method for solving quadratic equations.	Use graphic organizer to determine the best method for solving each equation.	a. $x^2 - 9 = 5$ Square root	b. $5x^2 - 7x = 0$ GCF
		c. $3(x + 5)^2 = 64$ Square root	d. $x^2 + 12x + 30 = -5$ Factoring or Completing the square
		e. $6x^2 + 8x + 1 = 0$ quad form.	f. $3x^2 + 13x + 12 = 0$ Factoring
		g. $5(x - 2)^2 = 125$ Square root	h. $x^2 - 16 = 0$ Square root