

Team Task #1 Write names of team members here: _____

Solving Quadratic Equations, Graphing Quadratic Functions, Solving Systems of Equations, Distance Formula (you can **Google** all of these topics and find useful **resources to help you**)

Staple all notebook paper that you used to complete the assignment and turn it in with this handout.

Solve the following quadratic equation by using the quadratic formula.

$$f(x) = x^2 + 4x + 5$$

Write the quadratic formula here:

Show work in the space provided:

1. Find the values of h and k. 2. Find the coordinates of the vertex. 3. Find the equation of the AOS. 4. Determine if the function has a maximum or minimum. 5. Evaluate the function at 5 values for x and fill in the table below.

Graph $f(x) = x^2 + 4x + 5$ below.

$$f(x) = x^2 + 4x + 5$$

h =

x	f(x)

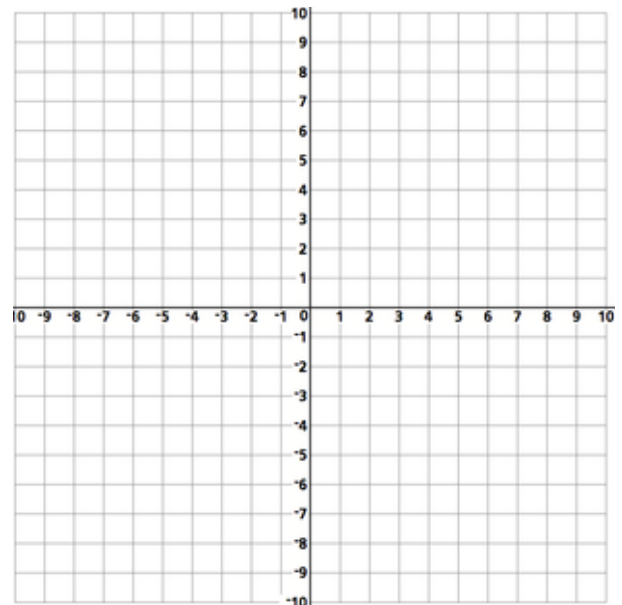
k =

Vertex =

AOS:

maximum or minimum?

Graph $f(x) = x^2 + 4x + 5$ below.



A system of equations is shown below.

$$f(x) = x^2 + 4x + 5$$

$$f(x) = x + 5$$

1. What are the solutions (points of intersection) of the above system of equations?

2. What is the distance between the points of intersection of the system?

Practice Solving Quadratic Equations by Completing the Square (This will be on the test!)

Easy **1 Easy problem will be on the test**

$n^2 - 2n - 3 = 0$	$a^2 + 14a - 51 = 0$
$x^2 - 12x + 11 = 0$	$x^2 + 6x + 8 = 0$

Medium (Leave your answers in radical form) **1 Medium problem will be on the test**

$p^2 + 14p - 38 = 0$	$v^2 + 6v - 59 = 0$
$k^2 - 12k + 23 = 0$	$r^2 - 4r - 91 = 7$

Hard (These have imaginary solutions) **2 Hard problems will be on the test**

$b^2 + 2b = -20$	$v^2 - 6v = -91$
$9n^2 + 79 = -18n$	$2x^2 - 5x + 67 = 0$

Pro (Math III Final Exam Level) **1 Pro level problem will be on the test**

<p>If $x^2 - 6x - 16$ is written in the form $a(a - h)^2 + k$, what is the value of $a + h + k$?</p> <p>A. -27 B. -21 C. 12 D. 29</p>	<p>What value of h is needed to complete the square for the equation $x^2 + 10x - 8 = (x - h)^2 - 33$?</p> <p>A. -25 B. -5 C. 5 D. 25</p>
<p>Solve by completing the square: $5x^2 + 20x + 32 = 0$</p>	<p>The equation $2x^2 - 5x = -12$ is rewritten in the form of $2(x - p)^2 + q = 0$. What is the value of q?</p> <p>A. 167/16 B. 71/8 C. 25/8 D. 25/16</p>

