Name Key Date _____ Pd _____

3.3 Completing the Square CYU

☑ *Use when you get it right all by yourself*

S *Use when you did it all by yourself, but made a silly mistake*

H *Use when you could do it alone with a little help from teacher or peer*

G *Use when you completed the problem in a group*

X *Use when a question was attempted but wrong (get help)*

N *Use when a question was not even attempted*

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Finding "c"	1 - 4		
Solving by Completing the Square		5 - 7	8
Converting from Standard Form to Vertex Form		9, 10, 12	11
Identifying the Vertex & Axis of Symmetry	9 - 12		

Determine what should go in the square.

1) $y = x^2 + 4x +$ 4

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

3) $f(x) = x^2 + 6x +$ 9

4) $f(x) = x^2 - 9x +$ $\frac{81}{4}$

Solve by Completing the Square.

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

$x = 1, -5$

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

$x = 1 \pm i$

7) $0 = x^2 + 6x - 10$

$x = -3 \pm \sqrt{19}$

8) $-5 = -2x^2 - 4x$

$x = -1 \pm \sqrt{\frac{7}{2}}$

OR

$x = -1 \pm \frac{\sqrt{7}}{\sqrt{2}}$

Convert from Standard form ($y = ax^2 + bx + c$) to Vertex form ($y = a(x - h)^2 + k$). Then identify the vertex and axis of symmetry.

9) $0 = x^2 - 2x + 2$

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

V: (1, 1)

AofS: $x = 1$

10) $0 = -x^2 + 6x - 10$

$y = -(x-3)^2 - 1$

V: (3, -1)

AofS: $x = 3$

11) $0 = 2x^2 + 4x - 3$

$y = 2(x+1)^2 - 5$

V: (-1, -5)

AofS: $x = -1$

12) $x^2 + 20x + 90 = 0$

$y = (x+10)^2 - 10$

V: (-10, -10)

AofS: $x = -10$

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the