

Reading Questions for Section 5.5 and Ch 5 Tools

Name _____

Due: June 11, 2008

1. Work through Example 1 of Section 5.5 by graphing both $f(x) = x^2$ and $g(x) = -2(x+1)^2 + 3$ on your grapher in an appropriate viewing window. Knowing what you do from Sections 5.1-5.3, complete the blanks, choosing from the set of words {up, down, left, right}. The graph of $g(x)$ is obtained from the function $f(x)$ by shifting the graph of $f(x)$ _____ 1 unit, followed by stretching it vertically by 2, followed by shifting it _____ 3 units.
2. Write the function $g(x)$ in Example 1 of Section 5.5 in standard form: $g(x) =$ _____
3. The standard form for a quadratic function makes it easy to identify the vertical (or y-) intercept.
 - True
 - False
4. What is the vertical intercept of the function $g(x)$ in Example 1 of Section 5.5? (_____, _____)
5. If $a < 0$, then the graph of the parabola, $y = -ax^2$ opens
 - downward
 - upward
 - to the left
 - to the right
6. Which of these forms for a quadratic function make it easiest to identify the zeros?
 - standard form
 - vertex form
 - x-intercept form
 - factored form
 - none of these
7. How does the text convert a quadratic function from *vertex form* to *standard form*?
 - by completing the square
 - by performing a series of shift transformations and either a vertical stretch or a vertical compression
 - by multiplying out the squared term and combining like terms
 - by applying the quadratic formula or factoring the expression
8. How does the text convert a quadratic function from *standard form* to *vertex form*?
 - by completing the square
 - by performing a series of shift transformations and either a vertical stretch or a vertical compression
 - by multiplying out the squared term and combining like terms
 - by applying the quadratic formula or factoring the expression
9. Convert the formula for the parabola in Example 4 to *standard form*:

10. Convert the formula for the parabola in Example 4 to *vertex form*:

11. Match the following quadratic functions to their vertex point.

_____ $f(x) = x^2 - 1$	A. (0, 1)
_____ $u(x) = x^2 + 1$	B. (1, 0)
_____ $v(x) = (x + 1)^2$	C. (0, -1)
_____ $w(x) = (x - 1)^2$	D. (-1, 0)
12. If $y = x^2 + bx + c$ then to complete the square you add and subtract which one of the following values?
 - $b/2$
 - b/c
 - $(b/2)^2$
 - $\sqrt{b/2}$
 - None of these