

I. Determine the c value (number of unit blocks) that would create a perfect square. Then write the trinomial as a perfect square.

1. $x^2 + 8x + \underline{\hspace{2cm}}$

2. $x^2 - 6x + \underline{\hspace{2cm}}$

3. $x^2 + 10x + \underline{\hspace{2cm}}$

4. $x^2 - 20x + \underline{\hspace{2cm}}$

5. $x^2 + 5x + \underline{\hspace{2cm}}$

6. $x^2 - 9x + \underline{\hspace{2cm}}$

7. Describe how to find the value of c that will create a perfect square when $a = 1$ and b is known.

II. Determine if each quadratic trinomial is a perfect square. If it is, rewrite the expression as a perfect square. If not, just write not a perfect square.

8. $x^2 - 2x + 1$

9. $x^2 + 2x + 1$

10. $x^2 - 2x - 1$

11. $x^2 - 6x + 9$

12. $x^2 - 6x - 9$

13. $x^2 + 6x + 9$

14. Identify the c value in each of the perfect squares in problems 8-13. Are the c values all positive, negative, or can the c value be either positive or negative?

15. Observe the sign of b in each of the perfect squares. Then observe the sign in the parentheses of the vertex form equation modeling $(side\ length)^2$. What do you notice?

III. Quiz review

16. Describe the transformations from the function $f(x) = x^2$ and identify the vertex for $g(x) = -3(x - 4)^2 + 2$.

17. Describe the transformations from the function $f(x) = x^2$ and identify the vertex for $h(x) = \frac{1}{4}(x + 1)^2 - 8$.

18. Use the table below to complete the following information.

x	$f(x)$
3	-6
4	0
5	2
6	0
7	-6

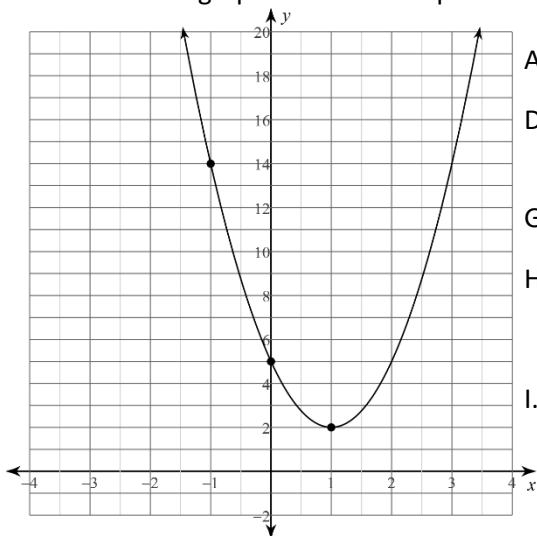
- A. Vertex _____ B. Maximum or Minimum _____ C. Axis of Symmetry _____
 D. Second Difference _____ E. y-intercept _____ F. # of x-intercepts _____
 G. Vertex Form _____
 H. Describe the transformations from the parent function $f(x) = x^2$.
 I. Standard Form _____ (show all work)

19. Use the transformations from the parent function $f(x) = x^2$ to complete the following information.

$h(x)$ was translated left 2 units, vertically compressed by a scale factor of $\frac{1}{2}$, and translated down 6 units.

- A. Vertex _____ B. Maximum or Minimum _____ C. Axis of Symmetry _____
 D. Second Difference _____ E. y-intercept _____ F. # of x-intercepts _____
 G. Vertex Form _____
 H. Standard Form _____ (show all work)

20. Use the graph below to complete the following information.



- A. Vertex _____ B. Maximum or Minimum _____ C. Axis of Symmetry _____
 D. Second Difference _____ E. y-intercept _____ F. # of x-intercepts _____
 G. Vertex Form _____
 H. Describe the transformations from the parent function $f(x) = x^2$.
 I. Standard Form _____ (show all work)