

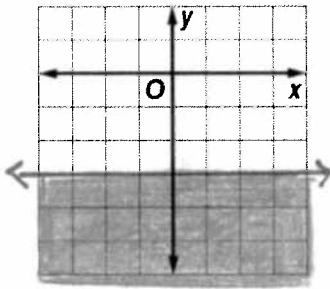
Day 06 Homework

Graphing Absolute Value & Linear Inequalities

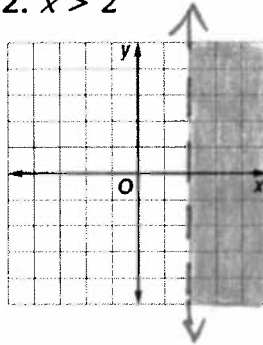
Name Master E
 Date _____ Block _____

1-9: Graph each inequality. Do not use the calculator!

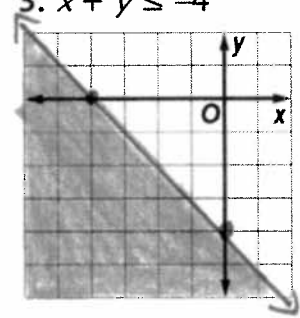
1. $y \leq -3$



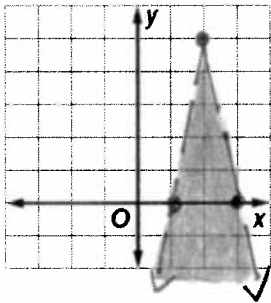
2. $x > 2$



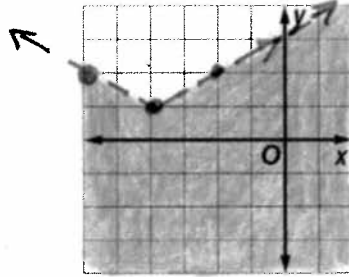
3. $x + y \leq -4$



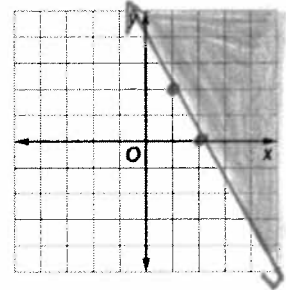
4. $y < -5|x - 2| + 5$



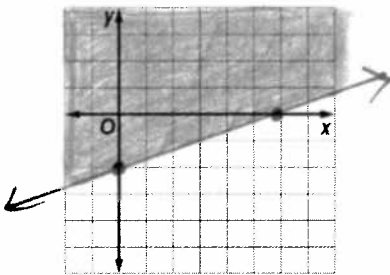
5. $y < \frac{1}{2}|x + 4| + 1$



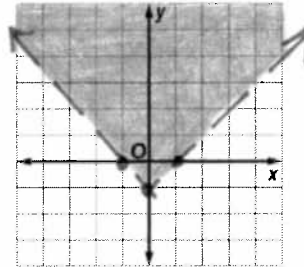
6. $y \geq -2(x - 1) + 2$



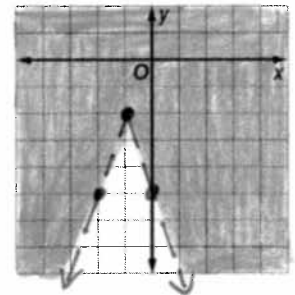
7. $x - 3y \leq 6$



8. $y > |x| - 1$



9. $y > -3|x + 1| - 2$



10. **COMPUTERS** A school system is buying new computers. They will buy desktop computers (x) costing \$1000 per unit, and notebook computers (y) costing \$1200 per unit. The total cost of the computers cannot exceed \$80,000.

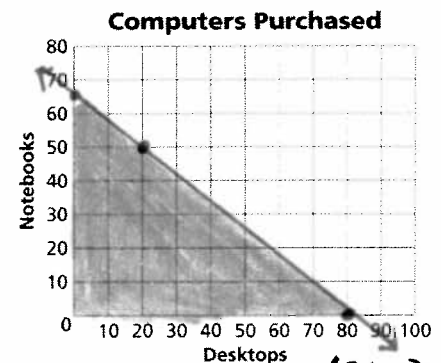
a. Write an inequality that describes this situation.

$$1000x + 1200y \leq 80,000$$

b. Graph the inequality.

c. If the school wants to buy 50 of the desktop computers and 25 of the notebook computers, will they have enough money?

$$1000(50) + 1200(25) = 80,000 \text{ yes!}$$



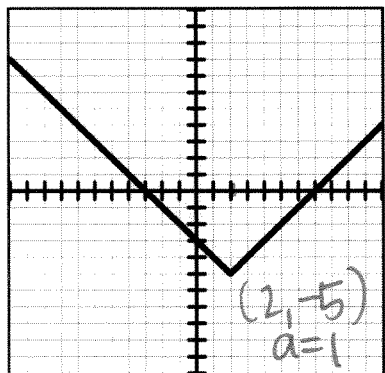
$(80, 0)$
 $(0, 66.7)$
 $m = -\frac{5}{6}$

Review of Transforming Functions: Given the following formula: $f(x) = a |x - h| + k$

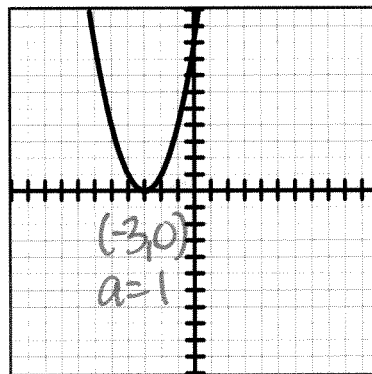
- * a is what causes the graph to stretch or compress vertically.
- * h causes the function to shift horizontally \longleftrightarrow .
- * k causes the function to shift vertically \updownarrow .
- * Your starting point is always $(h, k) \Rightarrow$ the vertex.

Write the function for each of the following graphs using the formula above. Take the parent function and apply the transformation to write your equation.

11. $f(x) = |x-2|-5$

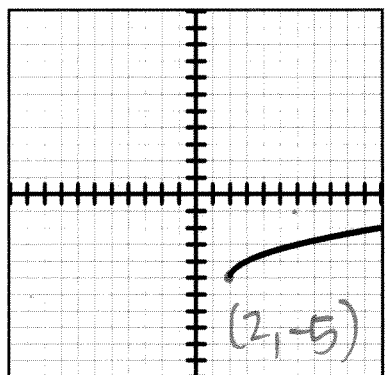


12. $f(x) = (x+3)^2$



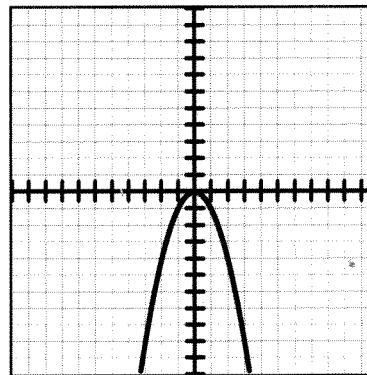
Square Parent
 $f(x) = x^2$

13. $f(x) = \sqrt{x-2} - 5$



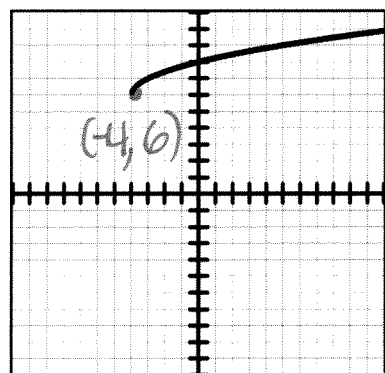
Square Root Parent
 $f(x) = \sqrt{x}$
 $a=1$

14. $f(x) = -x^2$



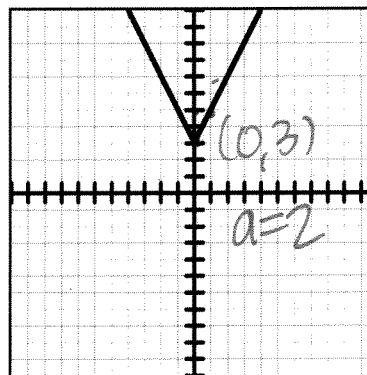
Square Parent
 $f(x) = x^2$

15. $f(x) = \sqrt{x+4} + 6$



$f(x) = \sqrt{x}$

16. $f(x) = 2|x| + 3$



Absolute Value Parent
 $f(x) = |x|$