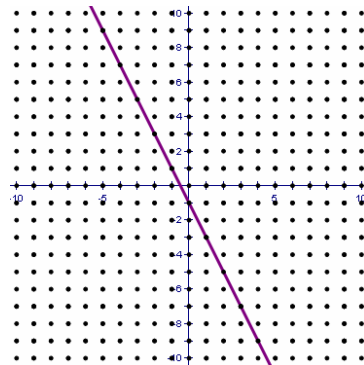
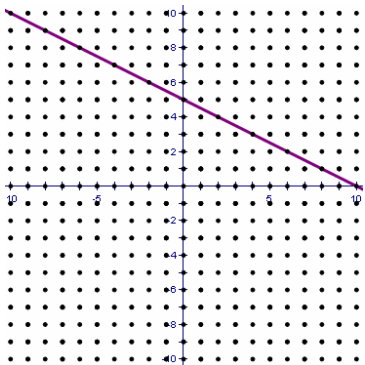
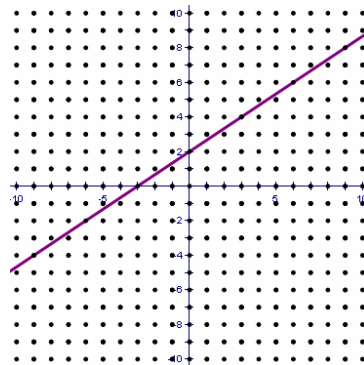
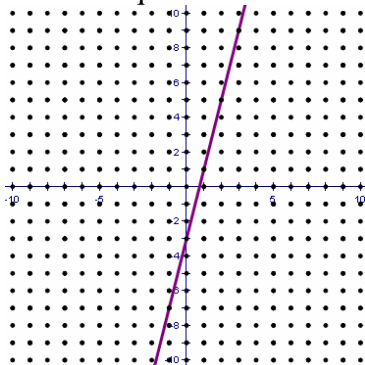


Algebra 2
Six-Weeks Review

1. Simplify the following: $-3(6-13x)+2x(4-5x)$
2. Solve: $12x=96$
3. Solve: $\frac{x}{12}=96$
4. Solve: $6-24v=5(9-4v)+13$
5. Solve: $61w-437=966$
6. Solve: $15k+9=9k-75$
7. Evaluate $5a+13-a^2+2ab+b^2-3b$ for $a=5$ and $b=-4$
8. Find the solution and graph on a number line: $x-7\leq 4x-31$
9. Find the solution and graph on a number line: $-14\leq 2-4x<18$
10. Solve: $4|x-7|+9=41$
11. Find the slope of the following:
 - a. $y=4x+1$
 - b. $4x+2y=22$
 - c. The line that goes through the points $(7, 3)$ and $(16, 0)$
 - d. The horizontal line that goes through the point $(2, 6)$
 - e. The vertical line that goes through the point $(1, 10)$
 - f. The parent function for linear functions
12. Explain two ways to tell if a relation is a function or not.
13. Find the equations for the linear functions below:



14. Name three points that lie on the graphs of the following linear equations:

a. $f(x) = x + 4$

b. $g(x) = 5x - 2$

c. $h(x) = \frac{4}{5}x$

d. $j(x) = -\frac{3}{2}x + 15$

15. Sketch each of the following parent functions, give the domain and range of each, and label three points on the graph:

a. $y = x$

b. $y = |x|$

c. $y = x^2$

d. $y = x^3$

e. $y = \sqrt{x}$

f. $y = \frac{1}{x}$

g. $y = 2^x$

h. $y = \log_2 x$

16. Write the transformation to $f(x)$ that makes the following change to the graph:

Example: The graph of $f(x)$ is shifted 4 units up: $f(x) + 4$

a. The graph of $f(x)$ is shifted 3 units down.

b. The graph of $f(x)$ is stretched vertically twice as tall.

c. The graph of $f(x)$ is reflected over the x axis

d. The graph of $f(x)$ is compressed vertically so that it's only a third as tall.

e. The graph of $f(x)$ is shifted 7 units to the left

f. The graph of $f(x)$ is shifted 1 unit to the right.

17. Graph the following functions, and give the domain and range of each:

a. $y = |x - 2|$

b. $y = x^2 - 3$

c. $y = \sqrt{x + 5}$

d. $y = \sqrt{x} + 5$

e. $y = \frac{1}{x - 2}$

f. $y = \frac{1}{x} - 2$