1.1

SM3 Linear Polynomials 2019-20

Name _____ Date _____ Period _____

1. Fill out the columns below for each polynomial given. Refer to your notes/textbook as needed.

Polynomial	Standard Form Circle the leading coefficient	# Terms	Degree	Coefficient(s), Circle the constant
$6x^3+8x-3x^2$				
x^4+2x				
x				
$3-\frac{1}{2}x$				
8				

Simplify. Write your answer in standard form.

2. $(3n+1)+(8n-8)$

3. $(6w-11w)-(4+7w)$

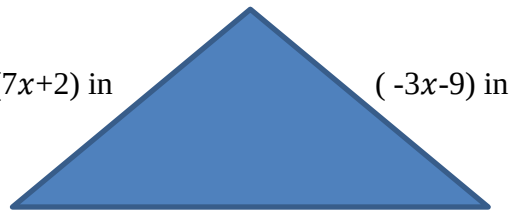
4. $(8+5u)-(4+8u-5u)$

5. $-(5x+7)-(-4+6x)+(-3-5x)$

6. $(2-6p)-(3p+7)-(4p+5)$

7. $(5m-2mp-6p)+(-3m+5mp+p)$

8. Find the perimeter in terms of x.



9. A triangle has sides, $(x+1)$ ft, $(2x-3)$ ft and $(5x)$ ft, find the perimeter in terms of x.

Rewrite answers in slope-intercept form (solve for y and leave the side with x in standard form). Leave answers as simplified fractions. Show ALL work.

10. $2x + y = 4$

11. $3x + 6y = 12$

12. $2x - 5y = 15$

13. $-3x + 4y = 15$

14. $y - 4 = \frac{1}{2}(x + 6)$

15. $y + \frac{10}{3} = -2(x - 3)$

Solve each story. Define a variable, write an equation, show all of your work and label your answer.

16. Five CD's cost $30. What is the cost of each CD if each costs the same?

17. Karen has 6 more than twice as many newspaper customers that when she started. She now has 98 customers. How many did she have when she started?

18. One season Carlos Gonzales scored 9 more runs than twice the number of runs he batted in. He scored 117 runs that season. How many runs did he bat in?

19. The entrance to a South Dakota gold mine is 3273 feet above sea level. The mine is 4386 deep, measured from the entrance. What is the elevation of the bottom of the mine?

List all the parts of the polynomial.

20. $4x-5x^3+2x^2-x-6$

Standard form:

Leading coefficient:

All coefficients:

Constant:

Degree of the polynomial:

Rewrite answers in slope-intercept form (solve for y and leave side with x in standard form). Leave answers as simplified fractions. Show ALL work.

21. $-3x-7y=-14$

22. $y+3=-\frac{2}{3}(x-3)$

Solve for y given the value of x. Leave answer as a fraction. Show ALL your work.

23. $y=-2x+5, \quad \text{for } x=-3$

24. $2x-7y=21, \quad \text{for } x=4$

Evaluate the following functions. Leave answer as a fraction. Show ALL your work.

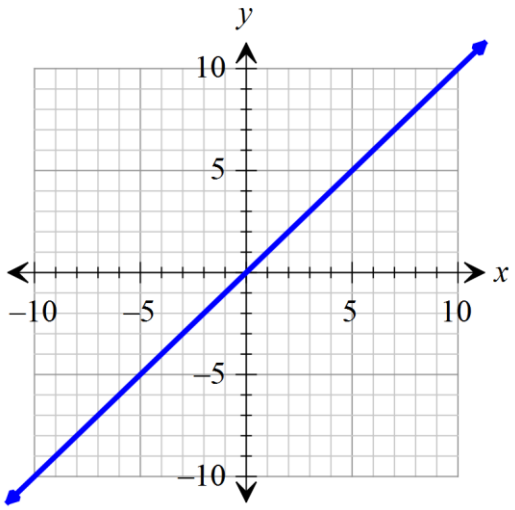
25. $f(x)=\frac{1}{2}x-3, \quad f(4)$

26. $f(x)=7x-1, \quad f\left(\frac{1}{2}\right)$

Make a table for each of the following equations. The parent graph is already graphed. Graph the equations. Answer the questions.

27. $f(x) = x - 4$

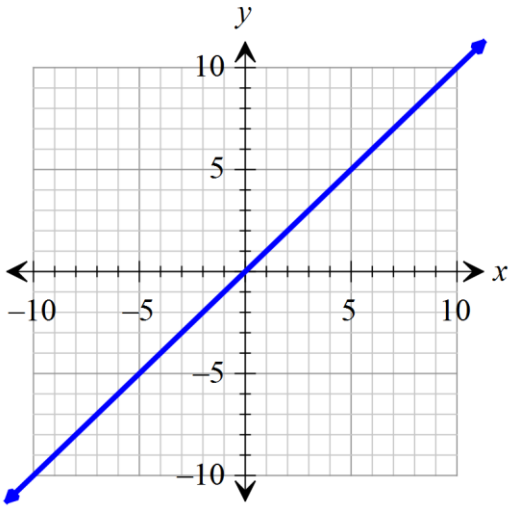
x	$f(x) = x - 4$	$f(x)$	$(x, f(x))$
-2			
-1			
0			
1			
2			



27a. How does the -4 affect the graph when compared to the parent graph (the given line)?

28. $y = x + 6$

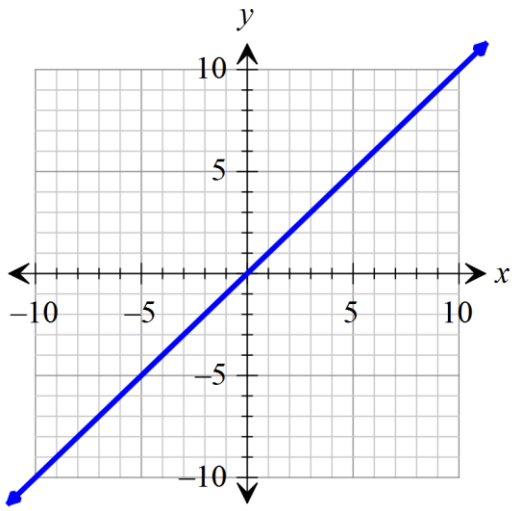
x	$y = x + 6$	y
-2		
-1		
0		
1		
2		



28a. How does the +6 affect the graph when compared to the parent graph?

29. $f(x) = \frac{2}{3}x$

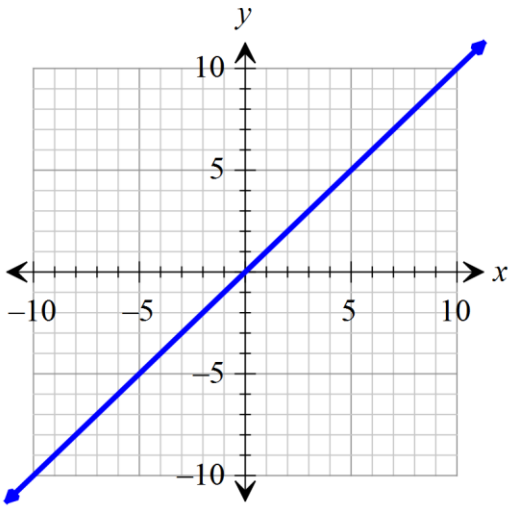
x	$f(x) = \frac{2}{3}x$	$f(x)$
-6		
-3		
0		
3		
6		



29a. How does the $\frac{2}{3}$ affect the graph when compared to the parent graph?

30. $f(x) = 3x$

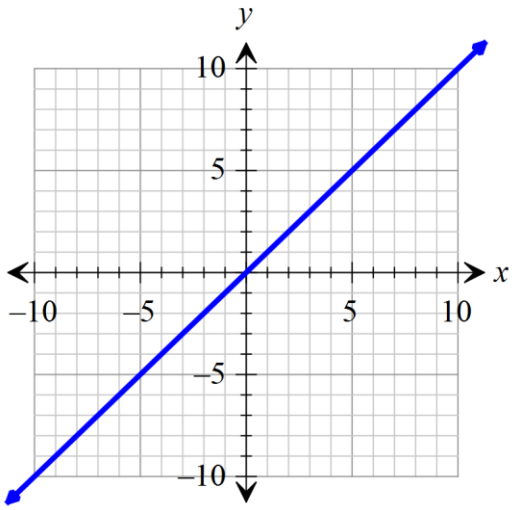
x	$f(x) = 3x$	$f(x)$
-4		
-2		
0		
2		
4		



30a. How does the 3 affect the graph when compared to the parent graph?

Graph using the short cut you discovered from graphing the above questions.

31. $f(x) = 2x - 5$



32. $3x - 4y = 8$ (Hint: solve for y first.)