Name _____ Date _____

8th Grade Semester 2 Assessment

Standard **Show your work. Write your answer on the line to the right.**

1. Solve $\frac{n}{9} + 5 = 10$. Show your work. 1._____

EE.7

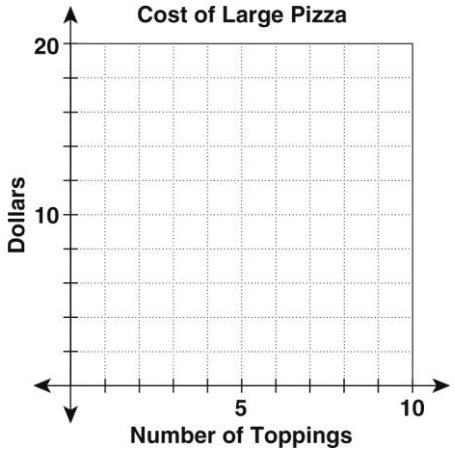
2. Solve. Show your work. 2._____

EE.7

EE.7.b $-2z + 3 + 7z = -12$

SP.3 3. A car rental company charges $50 plus $5 per mile to rent a car. Write the equation, in slope intercept form, that shows the total cost of renting a car. 3._____

SP.3 4. A pizzeria charges $10 for a large cheese pizza, plus $2 for each topping. The total cost for a large pizza is given by the equation $C = 2t + 10$, where t is the number of toppings. Graph the equation for t between 0 and 5 toppings, and Use the graph to explain the real world meaning of the slope and y-intercept.



4. _____

_____

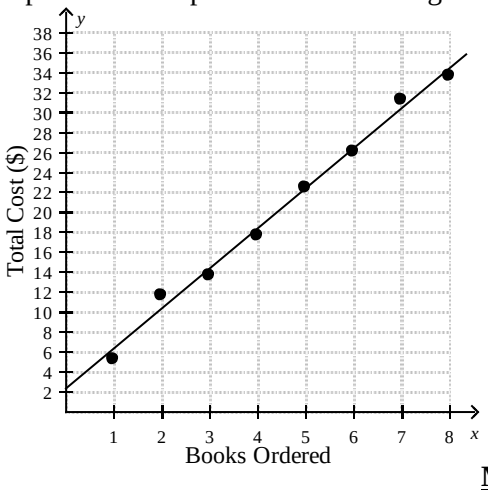
_____

_____

Multiple Choice

5. Find an equation in slope-intercept form for the line of best fit, and tell what the slope and intercepts represent in terms of the data it models. Give the slope and intercept to the nearest integer. 5._____

SP.3



Multiple Choice

a. $y = 2x + 4$
The slope of the best-fit line is 2, and the *y*-intercept is 4.
The slope, $2 per book, is the typical cost per book.
The *y*-intercept, $4, is the cost of ordering no books; which is the shipping cost.

b. $y = 4x + 2$
The slope of the best-fit line is 4, and the *y*-intercept is 2.
The slope, $4 per book, is the typical cost per book.
The *y*-intercept, $2, is the cost of ordering no books; which is the shipping cost.

c. $y = 2x + 4$
The slope of the best-fit line is 2, and the *y*-intercept is 4.
The slope, $2, is the typical cost per book.
The *y*-intercept, $4, shows that the first two books ordered are free.

d. $y = 4x + 2$
The slope of the best-fit line is 4, and the *y*-intercept is 2.
The slope, $4, is the typical cost per book.
The *y*-intercept, $2, shows that there is a coupon or other discount worth $2.

Multiple Choice

6. Which ordered pair is a solution to this system of equations? 6._____

EE.8

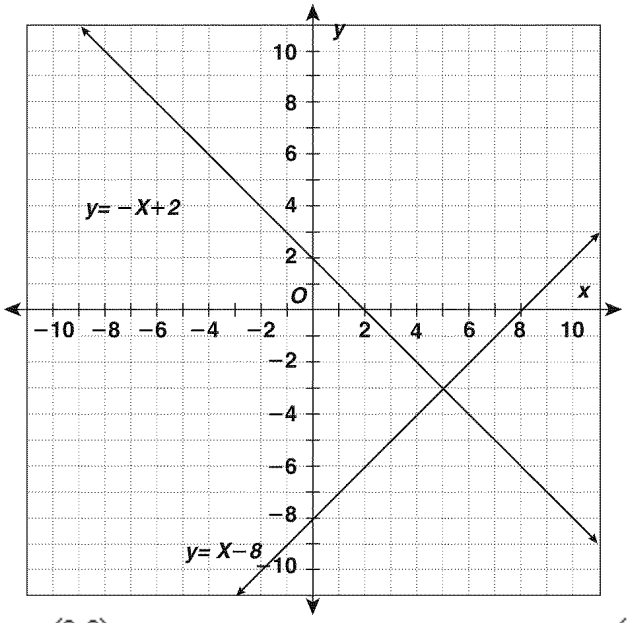
$2x + y = 14$
$3x - 2y = 7$

a. $(4, 6)$
b. $(5, 8)$
c. $(5, 4)$
d. $(4, 5)$

Multiple Choice

7. Which ordered pair is the solution of the system graphed? 7._____

EE.8
EE.8.a
EE.8.b



a. $(2, 0)$
b. $(8, 0)$
c. $(-3, 5)$
d. (5, -3)

Multiple Choice

8. Which function has the least rate of change. 8._____

F.2

a. $y = 3x - 16$
b.

x	0	1	2	3	4
y	3	4	5	6	7

c. Helga earns $12 per hour working at a restaurant.

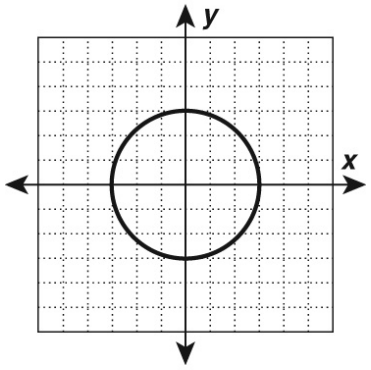
.

Multiple Choice

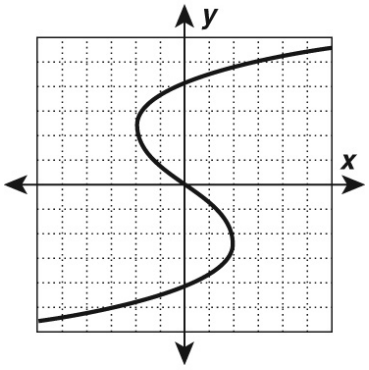
9. Which graph shows a function? 9._____

F.1

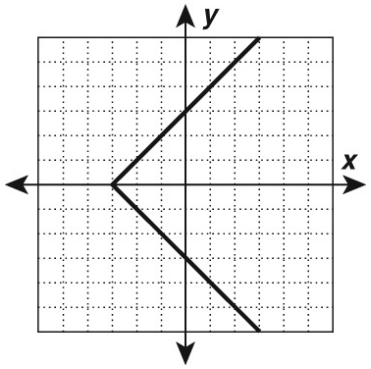
a.



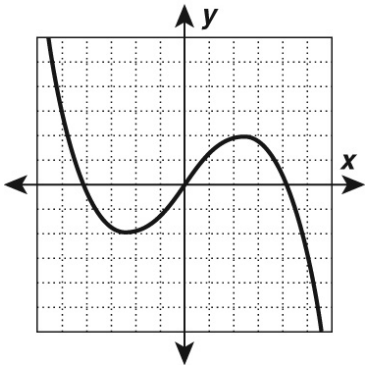
c.



b.



d.



Multiple Choice

10. Determine if the relation represents a function. 10._____

F.1

x	*y*
0	–5
1	–1
2	3
3	6

a. The relation is a function.

b. The relation is not a function.

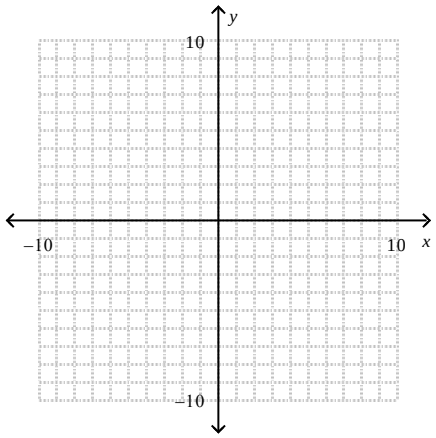
11. Mariana is 10 years old and has grown 7 inches in 2 years. When she was 8 years old, she was 52 inches tall. Mariana writes and graphs a function that models her height in inches over time in years. What is the initial value for this function? 11._____

F.4

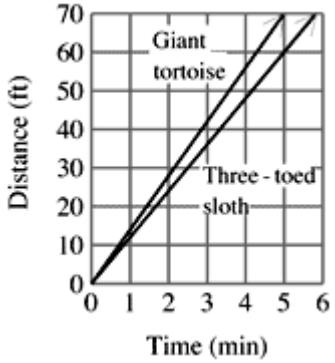
12. Miguel mows lawns for his neighbors in the summer time to earn money. 12._____
F.4 He charges $10 to cover the cost of supplies such as gasoline. He also charges $20 per hour for the time it takes him to mow the lawn. In a function that models Miguel's average hourly wage over time in hours.
What is the slope of the function?
What is the initial value of the function?

13. Graph the equation $y = \frac{-3}{5}x + 2$

EE.5



14. The graph shows the distance covered by a three-toed sloth and a giant tortoise. 14._____
EE.5 Which has the greater rate of speed?



Giant tortoise **y = 14x**
Three-toed sloth **y = 12x**

Multiple Choice

15. EE.8.c

Use the following information to match the statement with the corresponding system of equations. Circle the corresponding system of equations from the choices below.

While on vacation, Rosa stopped at a souvenir shop to buy keychains and refrigerator magnets for family members and friends. Keychains cost $2 each, and refrigerator magnets cost $1 each. Let *x* represent the number of keychains that Rosa bought, and let *y* represent the number of refrigerator magnets.

Rosa bought 12 items and paid a total of $18.

A $\begin{cases} x + y = 12 \\ -2x + y = 18 \end{cases}$

B $\begin{cases} x + y = 12 \\ 2x - y = 18 \end{cases}$

C $\begin{cases} x + y = 12 \\ 2x + y = 18 \end{cases}$

D $\begin{cases} x + y = 18 \\ 2x + y = 12 \end{cases}$

16. EE.7.a Solve the equation and state whether the variable has one solution, no solution or infinite solutions. Show your work. 16._____

_____

$3(y - 1) - 2y = -2y + 3(y - 1)$

Answer Key

1. $z/9 + 5 = 10$
   $z/9 + 5 – 5 = 10 – 5$
   $z/9 = 5$ **2 points if correct to here**
   $(z/9)9 = 5 \times 9$ **3 points if correct to here**
   $z = 45$ **4 points if correct to here**
   Total Points: 4

2. $-2z + 3 + 7z = -12$
   $5z + 3 = -12$ **1 points if correct to here**
   $5z + 3 – 3 = -12 – 3$
   $5z = -15$ **2 points if correct to here**
   $5z/5 = -15/5$
   $z = -3$ **3 points if missing negative; 4 points if correct**
   Total Points: 4

3. $y = 5x + 50$
   Total Points: 4 (2 pts for correct slope as coefficient of x. 2 pts for +50 as y-intercept)

4. The y-intercept represents the cost of a pizza with no topping($10 just for the plain pizza). The slope represents the rate of change ($2 per toppings)
   Total Points: 4 (2 pts for description of y-intercept, 2 pts for description of slope.)

5. A. 2 points (student mixed up the slope and y-int but has an understanding of what the slope and y-int mean)
   B. 4 points
   C. 1 point (student mixed up the slope and y-int and only shows an understanding of what slope means)
   D. 3 points (student calculated the correct slope and y-int, student understands the meaning of slope but didn't understand the meaning of the y-int)
   Total Points: 4

6. C
   Total Points: 4 (minus two points for A)

7. D

Total Points: 4

8. B
Total Points: 4

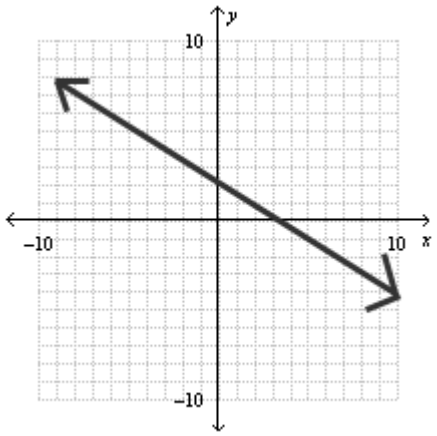
9. D
Total Points: 4

10. A
Total Points: 4

11. 52
Total Points: 4

12. slope is 20
initial value is 10
Total Points: 4 (two points for the slope, two points for the initial value)

13.



Slope = -3/5 (2 points)
y-intercept = 2 (2 points)
Total Points: 4 check students graph

14. the giant tortoise
Total Points: 4

15. **C** $\begin{cases} x + y = 12 \\ 2x + y = 18 \end{cases}$

Total Points: 4 (minus 2 for A or B)(minus 4 for D)

16. $3(y - 1) - 2y = -2y + 3(y - 1)$

$3y - 3 - 2y = -2y + 3y - 3$	**two points to here**
$y - 3 = y - 3$	**three points to here**
$y - 3 + 3 = y - 3 + 3$	
$y = y$	
$y - y = y - y$	
$0 = 0$	
Infinite solutions	**four points to here**

Total Points: 4

Name_____

8th Grade Semester 2 Assessment Score Sheet

		Standard
1.	**_____/4**	EE.7
2.	**_____/4**	EE.7, EE.7.b
3.	**_____/4**	SP.3
4.	**_____/4**	SP.3
5.	**_____/4**	SP.3
6.	**_____/4**	EE.8
7.	**_____/4**	EE.8, EE.8.a, EE.8.b
8.	**_____/4**	F.2
9.	**_____/4**	F.1
10.	**_____/4**	F.1
11.	**_____/4**	F.4
12.	**_____/4**	F.4
13.	**_____/4**	EE.5
14.	**_____/4**	EE.5
15.	**_____/4**	EE.8.c
16.	**_____/4**	EE.7.a

Total Score _____/