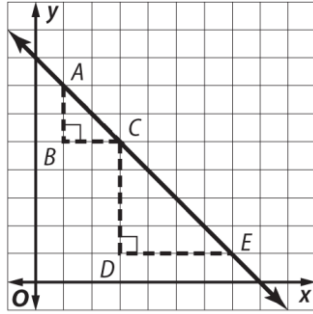Name: _____

Gr8 Review Test 1-3
(Proportional, y=mx+b, Slope Formula, Similar Triangles & Slope)

1. Which shows a proportion comparing the rise and run for each of the similar triangles, and the numeric value?

A. $\dfrac{BA}{BC} = \dfrac{DC}{DE}$, -1

B. $\dfrac{BA}{BC} = \dfrac{DC}{DE}$, 1.5

C. $\dfrac{BA}{BC} = \dfrac{DE}{DC}$, 2

D. $\dfrac{BC}{BA} = \dfrac{DC}{DE}$, $\dfrac{1}{2}$

2. Which equation is proportional?

A. y=1.5x + 1   B. y=2x - 4

C. y=8x   D. y=0.4x + 3

3. Is the relationship between the two quantities in the table proportional?

| Number of Pencils, x	Price ($), y
1	0.50
2	1.00
3	1.50

A. No, because the rate of change is not constant.

B. Yes, because the rate of change between pencils and price is constant; $2 per pencil

C. Yes, because the rate of change between time and pages read is constant; $0.05 per pencil

D. Yes, because the rate of change between time and pages read is constant: $0.50 per pencil

4. Determine the slope of the line that passes through:
A (8, −1) and D (−3, 2)

m=_____

5. What is the slope-intercept form for the graph below?
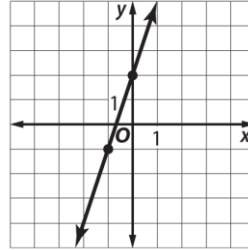
A.   y=2x + 3

B.   y=3x + 2

C.   y=−3x + 2

D.   y=−3x − 1

6. Below is a table that describes the number of lifeguards needed with the number of swimmers.

Number of Swimmers, x	Number of Lifeguards, y
12	5
15	6
21	8

Which statement about the relationship between the number of lifeguards and the number of swimmers is true?

A. The relationship is represented by equation y = x − 7

B. The relationship is represented by equation $y=\dfrac{1}{3}x$

C. The relationship is represented by equation $y=3x + 2$

D. The relationship is represented by equation $y=\dfrac{1}{3}x + 1$

7. The number of feet and the number of yards are in a proportional relationship. The relationship is shown in the graph. Which equation represents the number of yards for every feet?
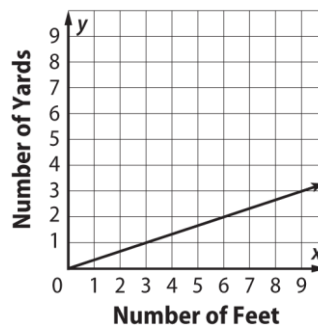
A. $y=-\dfrac{1}{3}x$

B. $y=\dfrac{1}{3}x$

C.   y=−3x + 3

D.   y=3x

Name: _____

8. The table below shows the print speed of an office printer. If you were to graph the line of this proportional relationship, what is the slope and what does it represent?

Minutes	Pages Printed
5	45
10	90
13	117

A.   45; 45 pages can be printed per minute

B.   5; 5 pages can be printed per minute

C.   9; 9 pages can be printed per minute

D. $\frac{1}{9}$; $\frac{1}{9}$ page can be printed per minute

9. Circle graph(s) that **are nonproportional**?

A.

B.

C.

D.
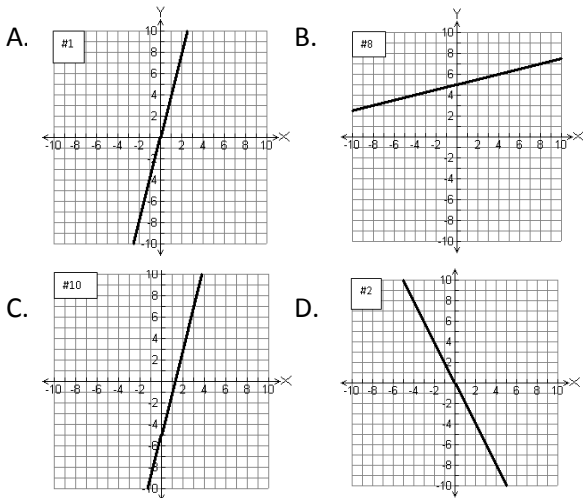
10. Determine the slope of the line that passes through:

$$A\ (-5, -1)\ \text{and}\ D\ (3, 2)$$

A. $\frac{8}{3}$

B. $\frac{3}{8}$

C. $-\frac{1}{4}$

D. $-\frac{1}{2}$

11. The table below shows the relationship between the cost of ground turkey at a local market and the number of pounds bought.

| Number of Pounds, x	Cost, y ($)
2	8.00
3.5	14.00
4	16.00
4.5	18.00

Which statement best describes this situation?

A. The equation y = 0.5x describes this non-proportional relationship.

B. The equation y = 0.4x describes this non-proportional relationship.

C. The equation y = 0.5x describes this proportional relationship.

D. The equation y = 4x describes this proportional relationship.

12. What's the slope and y-intercept for y=−x + 5?

A. m=1, b=5   B. m=−1, b=5

C. m=5, b=−1   D. m=−5, b=1

13. Which shows a proportion comparing the rise and run for each of the similar triangles, and the numeric value?
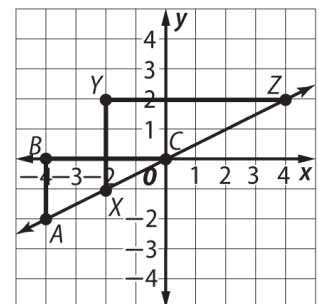
A $\frac{YZ}{YX} = \frac{BC}{BA}; \frac{1}{2}$

.

B $\frac{XY}{YZ} = \frac{BA}{BC}; \frac{1}{2}$

C $\frac{YZ}{YX} = \frac{BC}{BA}; 2$

D $\frac{YZ}{YX} = \frac{BA}{BC}; 2$

Name: _____

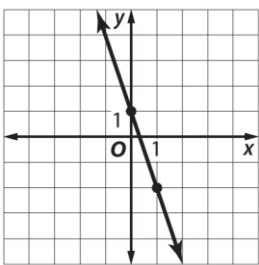**14.** Which equation is non-proportional?

A. y=1.5x   B. y=2x

C. y=¯8x   D. y=0.4x + 3

15. Is the relationship between the two quantities in the table proportional?

| Time (minutes), x	15	30	45	60
Number of Pages Read, y	10	20	30	40

A. No, because the rate of change is not constant.

B. Yes, because the rate of change between time and pages read is constant; $\frac{2}{3}$ per minute

C. Yes, because the rate of change between time and pages read is constant; $1\frac{1}{2}$ per minute

D. Yes, because the rate of change between time and pages read is constant: 10 per minute

16. What is the slope-intercept form for the graph below?

A.   y=−3x + 1

B.   y=−x − 3

C.   y=−3x − 2

D.   y=3x + 1

17. The number of pages and time are in a proportional relationship. The relationship is shown in the graph. Which equation represents the number of pages for every minute?
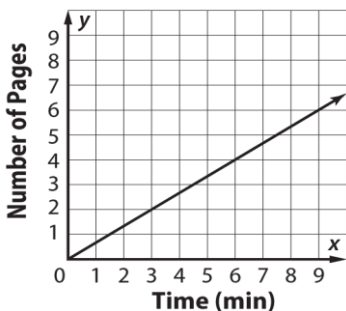
A. $y=\frac{2}{3}x$

B. $y=-\frac{2}{3}x$

C.   y=−3x + 3

D.   y=3x

18. Below is a table that describes the number of sheets of scratch paper needed with the number of testers.

Number of testers, x	# of Sheets of Scratch Paper, y
10	32
12	38
25	77

Which statement about the relationship between the number of lifeguards and the number of swimmers is true?

A. The relationship is represented by equation y = x + 22

B. The relationship is represented by equation $y=\frac{1}{5}x + 30$

C. The relationship is represented by equation $y=3x + 2$

D. The relationship is represented by equation $y=\frac{1}{3}x + 1$

19. The table below shows the print speed of an office printer. If you were to graph the line of this proportional relationship, what is the slope and what does it represent?

Minutes	Pages Printed
25	125
26	130
27	135

A.   45; 45 pages can be printed per minute

B.   5; 5 pages can be printed per minute

C.   9; 9 pages can be printed per minute

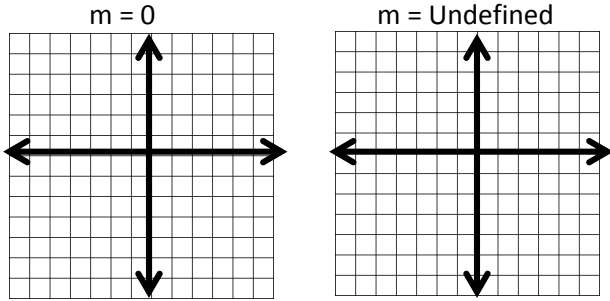D. $\frac{1}{9}$; $\frac{1}{9}$ page can be printed per minute

20. What are some other words that mean slope?

_____

_____

Name: _____

Gr8 Review Test 1-3
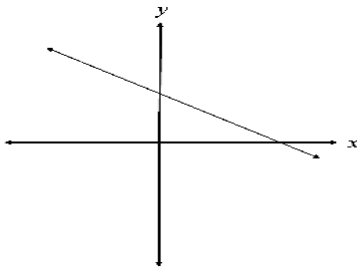(Proportional, y=mx+b, Slope Formula, Similar Triangles & Slope)

21. Draw a graph that shows a slope of zero and a slope of undefined.

m = 0   m = Undefined

22. Determine the slope of the line that passes through:
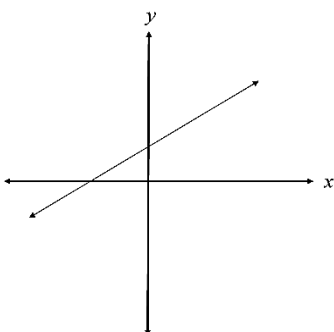$A\ (-8, -1)$ and $D\ (3, 2)$

A. $\dfrac{3}{11}$ B. $-\dfrac{1}{5}$

C. 2.5   D. −5

23. What could be the equation of the line below?

A. $y = mx + b$ where m is positive and b is positive

B. $y = mx + b$ where m is negative and b is positive

C. $y = mx + b$ where m is positive and b is negative

D. $y = mx + b$ where m is negative and b is negative

24. Which equation below could work for the graph?

A. $y = 2x + 4$
B. $y = -2x + 4$
C. $y = -2x - 4$
D. $y = 2x - 4$

25. The table below shows the relationship between the cost of ground turkey at a local market and the number of pounds bought.

Number of Pounds, x	Cost, y ($)
2	8.28
3	12.42
5	20.70
6	24.84

Which statement best describes this situation?

A. The equation y = .24x describes this non-proportional relationship.

B. The equation y = 4.5x describes this non-proportional relationship.

C. The equation y = 8.28x describes this proportional relationship.

D. The equation y = 4.14x describes this proportional relationship.

26. What's the slope and y-intercept for y=−8x?

A. m=−8, b=1   B. m=8, b=1

C. m=1, b=−8   D. m=−8, b=0

27. Write true or false for each statement below.

_____ The relationship between time and amount earned is linear.

_____ The relationship is nonproportional.

_____ The unit rate is $11 per hour.

_____ The equation that models this relationship is $y = 11x + 40$.