MAT150.5 Fall 2018 Fall

Algebra Final Practice Exam

1.) There are 16 of those students are men and 12 of those students are women. What percent of the class are women?

(a) 20% (b) 25% (c) 56% (d) 4% (e) 43%

2.) The number of students in the Fall semester was 5,000 and in the following Spring was 5,500. Find the percent increase

(a) 5% (b) 50% (c) 11% (d) 10% (e) 40%

3.) Solve for x. $3(5-x)-2(5+x)=3(x+1)$

(a) -1 (b) 1 (c) $\frac{1}{4}$ (d) -3 (e) 4

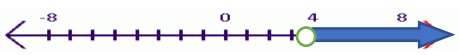
4.) Solve for a. $Q=3a+5pc$

(a) $a=\frac{Q+5pc}{3}$ (b) $a=\frac{3-5pc}{Q}$ (c) $a=\frac{Q-5pc}{3}$ (d) $a=\frac{Q}{3-5pc}$

5.) Find the graph of the solution of the inequality. $\boldsymbol{-x+5<3x-3}$

(a) 

(b) 

(c) 

(d) 

6.) Find the slope and y-intercept for the graph of the equation.

$$\boldsymbol{6x - 7y = -42}$$

(a) Slope = 6 and y-intercept = (0, -42)

(b) Slope = $-\frac{6}{7}$ and y-intercept = (0, -6)

(c) Slope = $\frac{6}{7}$ and y-intercept = (0, 6)

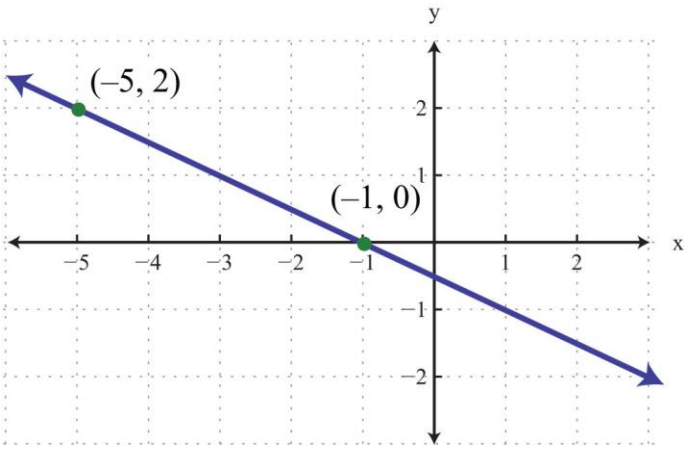
(d) Slope = $-\frac{6}{7}$ and y-intercept = (0, 6)

7.) What is the equation of the line passing through (-2, -1) and (4, 3)?

(a) $y = \frac{2}{3}x + \frac{1}{3}$ (b) $y = -\frac{2}{3}x + \frac{1}{3}$ (c) $y = -\frac{2}{3}x - \frac{1}{3}$ (d) $y = \frac{2}{3}x - \frac{1}{3}$

(e) $y = \frac{2}{3}x + 3$

8.) Which of the following is the equation of the given graph?



(a) $y = x + \frac{1}{2}$

(b) $y = \frac{1}{2}x - 1$

(c) $y = \frac{1}{2}x - 1$

(d) $y = -\frac{1}{2}x - \frac{1}{2}$

9.) Simplify. $\frac{(m^2)^4}{m^3 m^2}$

(a) $\frac{1}{m^3}$ (b) m^3 (c) $\frac{1}{m}$ (d) m^2 (e) m

10.) Joseph drives 125 miles in $2\frac{1}{2}$ hours. At the same rate, how far will he be able to travel in 6 hours?

(a) 340 miles (b) 320 miles (c) 300 miles (d) 360 miles
(e) 200 miles

11a.) From the early 1980's through 2012, the number of adults enrolled in Bachelor Degree programs has steadily increased. In 1983, 10.8 million adults were in enrolled in a Bachelor Degree program while in 2012, 20.6 million adults were enrolled. Write an approximate linear equation that would model these data where t = time in years after 1983 and B is the number of adults in millions in the US in a Bachelor Degree program. (Source: http://nces.ed.gov/)

(a) $B = 0.338t + 20.6$ (b) $B = -0.338t + 20.6$ (c) $B = 0.338t - 10.8$

(d) $B = 0.338t + 10.8$

11b.) Use this model to predict the 2016 Bachelor Degree students enrollment.

(a) 21,954,000 (b) 20.602 (c) 31,754,000 (d) 31.754

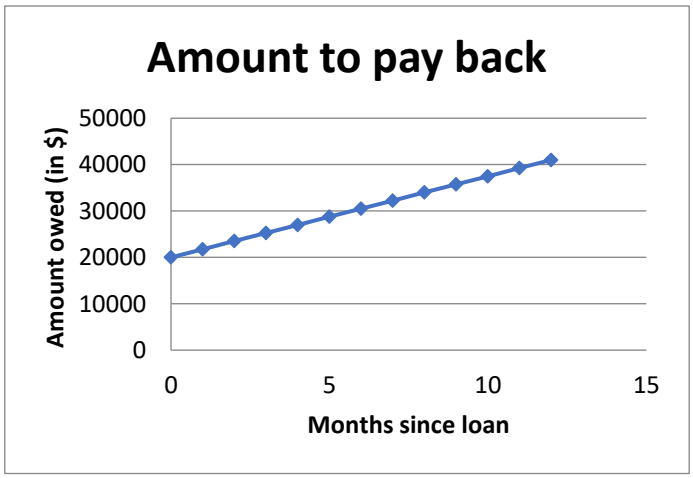
12.) Best Buy was having a 20% off sale on all flat screen TVs. What would the sale price of a $350 TV be?

(a) $280 (b) $70 (c) $420 (d) $180

13.) Simplify completely: $\sqrt{8xy^4} \cdot \sqrt{2x^2y^4}$

(a) $4y^4\sqrt{x}$ (b) $4xy^4\sqrt{x}$ (c) $4xy^8\sqrt{x}$ (d) $2xy^4\sqrt{2x}$

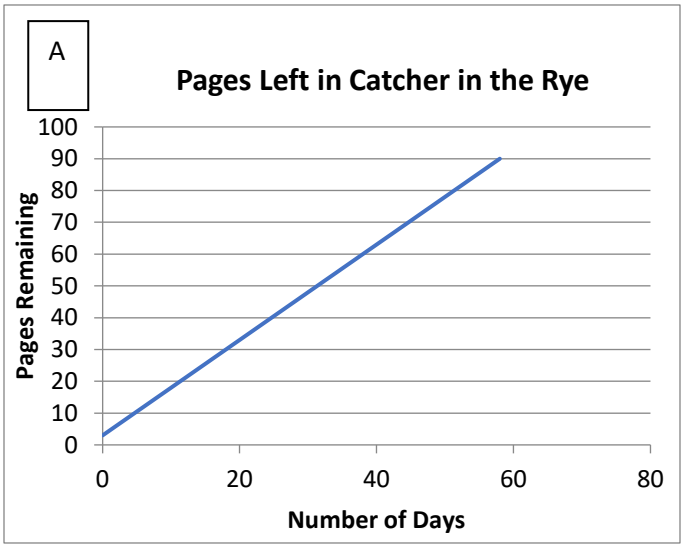
14.) A student takes out a student loan in her first year of college. The loan earns simple interest each month at a rate of 8.75%. Since she is still a student, she does not yet have to repay her loans but the interest accrues on the account. The graph depicting this situation is shown below. Which statement is correct based on the graph?



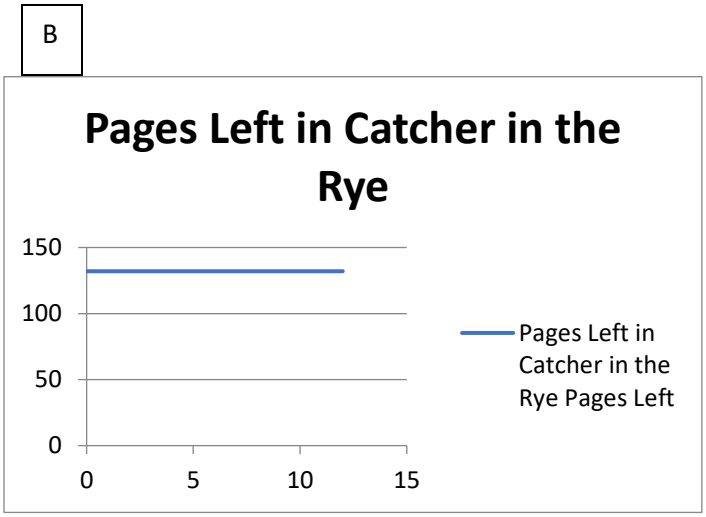
(a) The student loan is now $35,000.
(b) The student borrowed money for 12 months.
(c) The student borrowed $20,000.
(d) The student will owe $30,000 when she begins paying back her loans.

15.) Andrea is reading The Catcher in the Rye. She reads three pages every night. If the horizontal axis represents the nights, n after the first day she began reading the book, and the vertical axis represents the number of pages she has left to read, which graph models this situation?

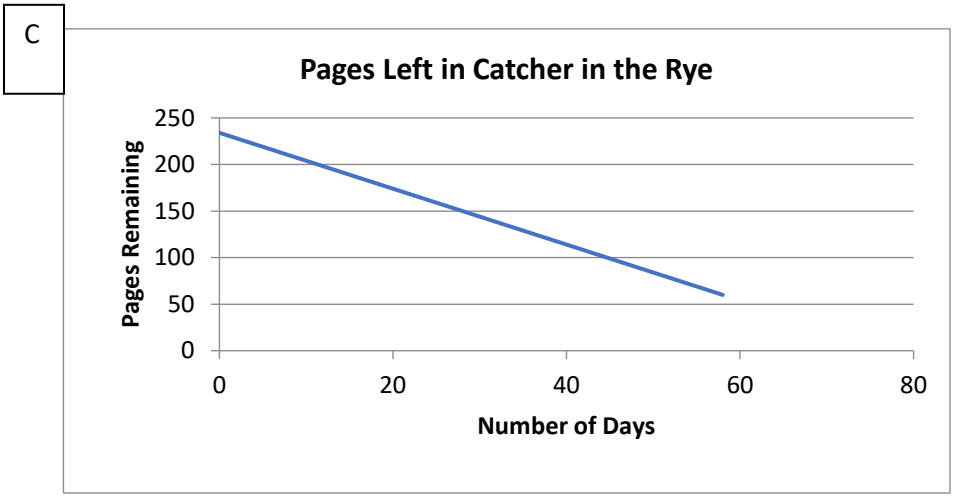
A



B



C



(a) Graph A

(b) Graph B

(c) Graph C

(d) Cannot be represented with a linear model

1	2	3	4
e	d	c	c
5	6	7	8
a	c	a	d
9	10	11(a)	11(b)
b	c	d	a
12	13	14	15
a	b	c	c