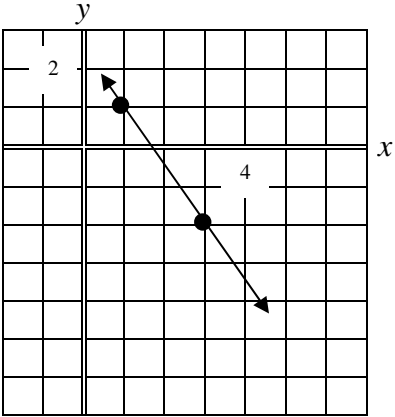


- 1) Which is(are) matched with a correct slope?



SLOPES

$$m = -\frac{3}{2}$$

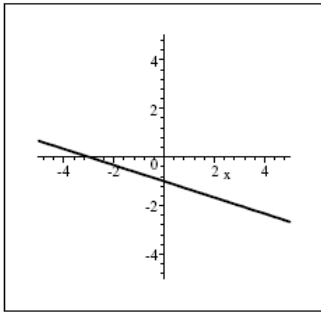
I

II Line with points $(-3, 2)$ and $(-5, 4)$ $m = -1$

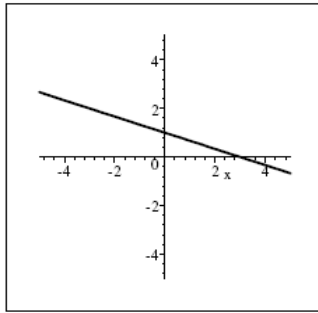
III $3x - y = 2$ $m = -\frac{1}{3}$

- A I, II, and III
 B II only
 C II and III only
 D I only
 E I and II only
- 2) Find the x -intercept and the y -intercept for the line with equation $4x - 3y = 24$.
- A $(8, 0), (0, -6)$
 B $(-8, 0), (0, 6)$
 C $(-6, 0), (0, -8)$
 D $(6, 0), (0, -8)$
 E $(6, 0), \left(0, \frac{4}{3}\right)$
- 3) Find an equation (in slope-intercept form) for a line through the point $(-8, 3)$ and a slope of $\frac{3}{4}$.
- A $y = \frac{3}{4}x + 3$
 B $y = \frac{3}{4}x - \frac{41}{4}$
 C $y = \frac{3}{4}x - 8$
 D $y = \frac{3}{4}x + 9$
 E None of the above.

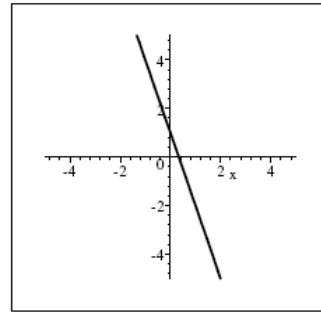
- 4) Which graph matches the linear function $f(x) = -\frac{1}{3}x + 1$?



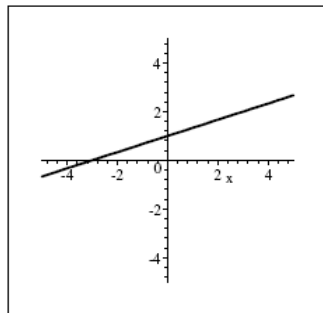
A



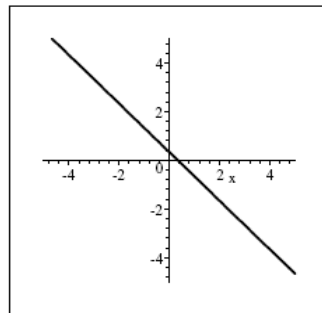
B



C



D



E

- 5) What is the slope of any line parallel to a line with equation $x = -\frac{1}{2}y + 3$?

A 2

B $-\frac{1}{2}$

C -2

D 3

E $\frac{1}{2}$

- 6) Solve the equation $|3 - 2x| + 6 = 8$. Which statements describe the solution(s).

A There are two solutions. Both are negative.

B There are two solutions. Both are positive.

C There are two solutions. One is positive and one is negative.

D There is one solution. It is positive.

E There is one solution. It is negative.

- 7) In the fall of 2000 a certain community college had an enrollment of 2500 students. By the fall of 2008, the enrollment had grown to 4000 students. Let $P(t)$ represent the number of students enrolled at the community college t years after 2000. Find a **linear** function that fits this data.

A $P(t) = \frac{375}{2}t + 4000$

B $P(t) = -\frac{375}{2}t + 2500$

C $P(t) = \frac{2}{375}t + 2500$

D $P(t) = \frac{375}{2}t + 2500$

E $P(t) = \frac{5}{8}t + 4000$

- 8) Given $f(x) = \frac{2x}{x+1}$ and $g(x) = x^2 - 3x$, find and simplify $\left(\frac{g}{f}\right)(4)$.

A $\frac{32}{5}$

B $-\frac{5}{2}$

C $\frac{2}{5}$

D $\frac{5}{2}$

E $\frac{3}{5}$

- 9) Solve the following system of linear equations. What is the value of y ?

$$x - 2y = 2$$

$$2x - 5y = 2$$

A $y = 6$

B $y = 2$

C $y = -\frac{2}{3}$

D $y = 0$

E $y = -2$

- 10) Jerry’s Brake shop offers two types of brake service, the basic service or the deluxe service. In one week, Jerry performed 2 basic services and 3 deluxe services for revenue of \$465. The price of the deluxe service is \$35 more than the price of the basic service job. Let x = the price of the basic service job and y = the price of the deluxe service job. Which system of equations could be used to solve for x and y ?

A $\begin{cases} 2x + 3y = 465 \\ y = x - 35 \end{cases}$

B $\begin{cases} 2x = 465 + 3y \\ y = x + 35 \end{cases}$

C $\begin{cases} 3x + 2y = 465 \\ y = x + 35 \end{cases}$

D $\begin{cases} 2x + 3y = 465 \\ y = x + 35 \end{cases}$

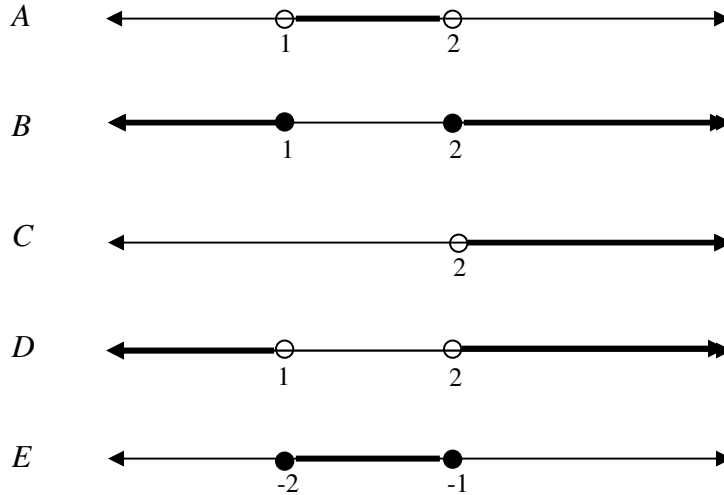
E $\begin{cases} 2x = 3y - 465 \\ y = x - 35 \end{cases}$

- 11) Mark leaves home on a long business trip traveling straight west on HW 111. **One hour after he left**, his wife, Leslie, noticed he had forgotten his briefcase containing important papers. She began following his route and drove for 4 hours and averaged 10 miles per hour faster than Mark was driving. How fast did **Leslie** drive in order to catch up with Mark?

	distance	rate	time
Mark			
Leslie			

- A Between 30 and 37 miles per hour
 B Between 37 and 46 miles per hour
 C Between 46 and 53 miles per hour
 D Between 53 and 59 miles per hour
 E Greater than 59 miles per hour
- 12) Acme moving company will move a household across the city for a fee of \$50 plus \$2.50 per mile. Solo moving company will move a household across the city for \$4 a mile. For how many miles will the cost of Solo moving company be more economical than Acme moving company? **Round to the nearest whole mile.**
- A No more than 28 miles
 B No more than 30 miles
 C No more than 33 miles
 D No more than 36 miles
 E No more than 39 miles

- 13) Which graph represents the solution of $|2x - 3| > 1$?



- 14) Solve the inequality and write the solution using interval notation.

$$\frac{2k + 5}{6} \geq -2$$

- A $\left[-\frac{17}{2}, \infty\right)$
- B $\left(-\frac{7}{2}, \infty\right)$
- C $\left[-\frac{7}{2}, \infty\right)$
- D $\left(-\infty, -\frac{17}{2}\right)$
- E $\left(-\infty, \frac{17}{2}\right)$

- 15) Do the addition/subtraction below and write answer in descending order.

$$(3x^3 + 5x - 2x^2) + (2x - 6x^2) - (3x^2 + 9x - 7x^3)$$

- A $10x^3 + 11x^2 + 2x$
- B $-4x^3 - 5x^2 + 16x$
- C $-4x^3 - 11x^2 + 16x$
- D $10x^3 - 11x^2 - 2x$
- E None of the above.