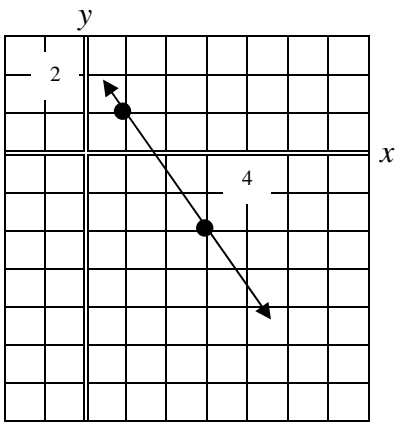
1) Which is(are) matched with a correct slope?

I



SLOPES

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

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

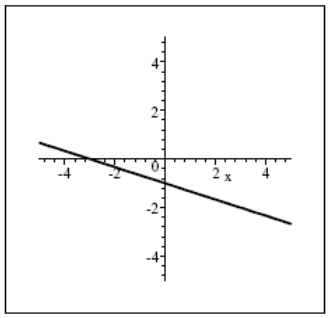
2) Find the *x*-intercept and the *y*-intercept for the line with equation $4x - 3y = 24$.

A $(8,0),\ (0,-6)$
B $(-8,0),\ (0,6)$
C $(-6,0),\ (0,-8)$
D $(6,0),\ (0,-8)$
E $(6,0),\ \left(0,\frac{4}{3}\right)$

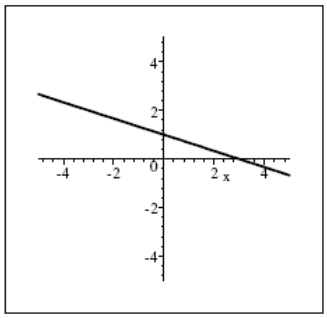
3) Find an equation (in slope-intercept form) for a line through the point $(-8,3)$ and a slope of $\frac{3}{4}$.

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.

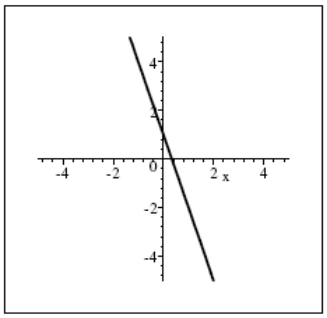
4) Which graph matches the linear function $f(x) = -\frac{1}{3}x + 1$?



A



B



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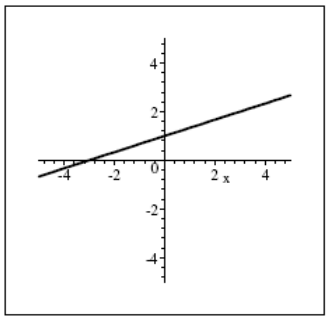
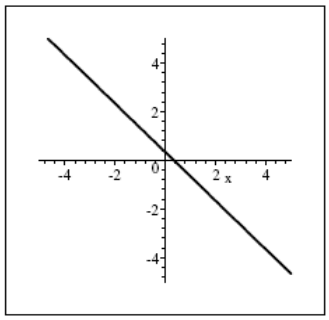


D



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			

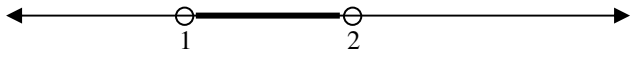
A Between 30 and 37 miles per hour
B Between 37 and 46 miles per hour
C Between 46 and 53 miles per hour
D Between 53 and 59 miles per hour
E Greater than 59 miles per hour

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**.

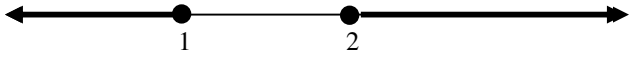
A No more than 28 miles
B No more than 30 miles
C No more than 33 miles
D No more than 36 miles
E No more than 39 miles

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

A



B



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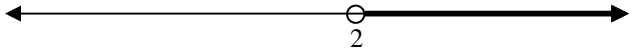

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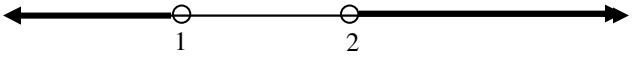

E

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.