

Name Key

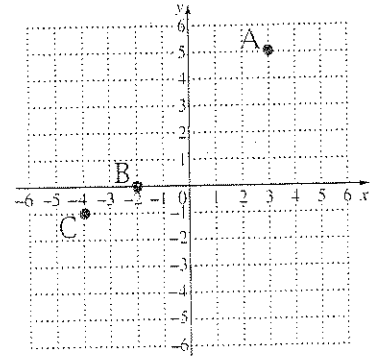
Answer all questions. Show all necessary work. Place your answer in the column on the right hand side of the paper. Each question is worth 5 points. Good luck.

1. In which quadrant is the point (52, -21) located?
 a. I b. II c. III d. IV

1. D (IV)

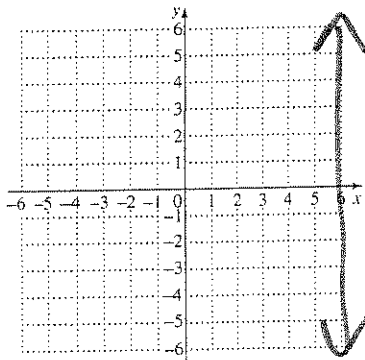
For problems 2 and 3, use the graph shown below.

2. Find the coordinate of point A. (3, 5)
 3. Find the coordinate of point B. (-2, 0)

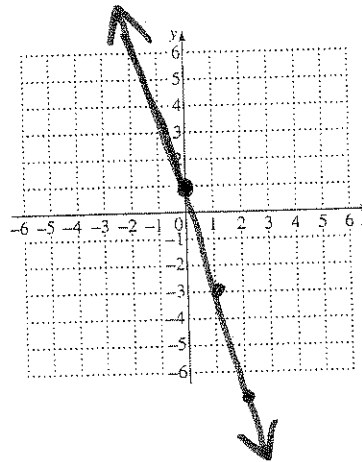


Graph by hand.

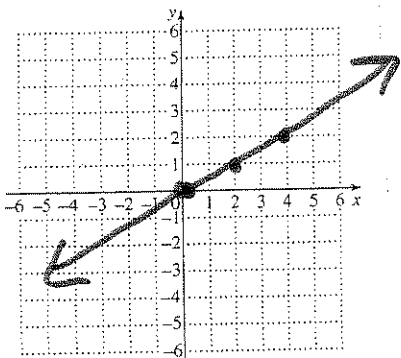
4. $x = 6$



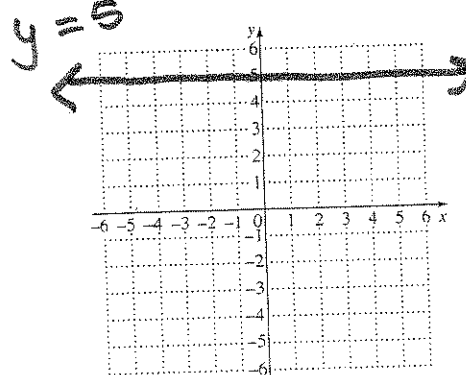
6. $y = -4x + 1$



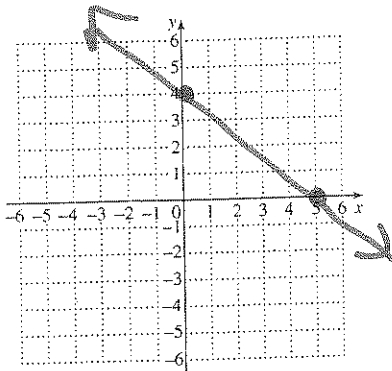
5. $y = \frac{1}{2}x$



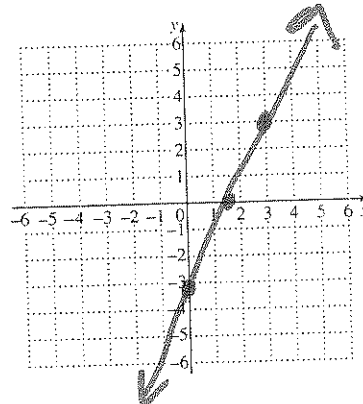
7. $y + 1 = 6$



8. $4x + 5y = 20$



9. $2x - y = 3$



10. Find the x-intercept and y-intercept of: $3x - 5y = 30$

$$y = -6$$

$$x = 10$$

10. $(10, 0)$
 $x = 10$
 $y = -6$
 $(0, -6)$

11. For the Presidential election, Ryan stuffed fliers into envelopes for Barack Obama. He worked from 2:10 pm until 4:40 pm and completed 360 envelopes. At what rate did Ryan stuff envelopes? Your answer should include correct units.

$$\frac{360 \text{ envelopes}}{150 \text{ minutes}} = 2\frac{4}{5} \text{ envelopes per minute}$$

$$360 \div 2.5 = 144 \text{ /hr.}$$

$$2\frac{4}{5}$$

$$2.4$$

12. On the way to his favorite fishing spot near Yosemite National Park, Miguel hikes up Old Priest Mountain which rises about 1500 feet on a 2 mile hike. What is the grade of incline? (Hint: 1 mile = 5280 feet)

$$\frac{1500 \text{ ft}}{10560 \text{ ft}} = .1420$$

$$\approx 14.90$$

25

13. Find the slope and y-intercept of the line: $y + 4x = -3$

$$y = -4x - 3$$

13. $\underline{m = -4}$
 $\underline{b = -3}$

14. Find the slope of the line containing the points $(-2, 17)$ and $(1, 8)$.

$$m = \frac{17 - 8}{-2 - 1} = \frac{9}{-3} = -3$$

14. $\underline{-3}$

15. Find the equation of a line with slope -3 and y-intercept $(0, 5)$.

15. $\underline{y = -3x + 5}$

16. Determine, without graphing, if the given pair of lines is parallel, perpendicular, or neither.

$$-9x + 7y = 10$$

$$7y = 9x + 4$$

$$7y = 9x + 10$$

$$y = \frac{9}{7}x + \frac{10}{7} \quad m_1 = \frac{9}{7}$$

$$7y = 9x + 4$$

$$y = \frac{9}{7}x + \frac{4}{7} \quad m_2 = \frac{9}{7}$$

16. parallel

17. Determine, without graphing, if the given pair of lines is parallel, perpendicular, or neither.

$$y = -2x + 5$$

$$2y - x = 6$$

$$m_1 = -2$$

$$2y = x + 6$$

$$y = \frac{x}{2} + \frac{6}{2} \quad m_2 = \frac{1}{2}$$

$$y = \frac{1}{2}x + 3$$

17. perpendicular

18. Find the equation of the line of slope 3 that contains the point (4, -8)

$$y - (-8) = 3(x - 4)$$

$$y + 8 = 3x - 12 - 8$$

$$y = 3x - 20$$

$y = 3x - 20$

19. Find the equation of the line containing the points (7, -2) and (5, -1).

$$m = \frac{-1 - (-2)}{5 - 7} = \frac{-1 + 2}{5 - 7} = \frac{1}{-2} = -\frac{1}{2}$$

$y = \frac{1}{2}x + \frac{3}{2}$

$$y - (-2) = -\frac{1}{2}(x - 7)$$

$$y + 2 = -\frac{1}{2}x + \frac{7}{2} - 2$$

$$y = -\frac{1}{2}x + \frac{7}{2} - \frac{4}{2}$$

20. Find the equation of the line that is perpendicular to the line $x - y = 3$ and that contains the point (3, 7).

$$x - y = 3$$

$$-y = -x + 3$$

$$y = x - 3$$

$$m = 1$$

$$y - 7 = -1(x - 3)$$

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

$y = -x + 10$

slope of perp. line

$$m = -\frac{1}{1} = -1$$

Name Keef

Answer all questions. Show all necessary work. Place your answer in the column on the right hand side of the paper. Each question is worth 5 points. Good luck.

1. In which quadrant is the point (-52, 21) located?

- a. I **b. II** c. III d. IV

1. B (II)

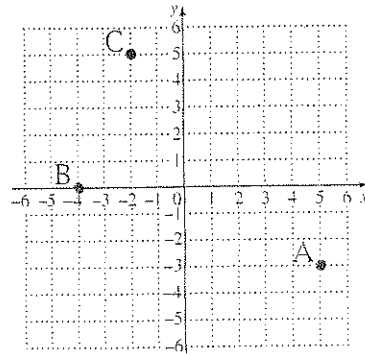
For problems 2 and 3, use the graph shown below.

2. Find the coordinate of point A.

(5, -3)

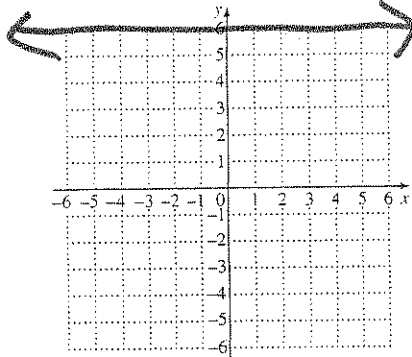
3. Find the coordinate of point B.

(-4, 0)

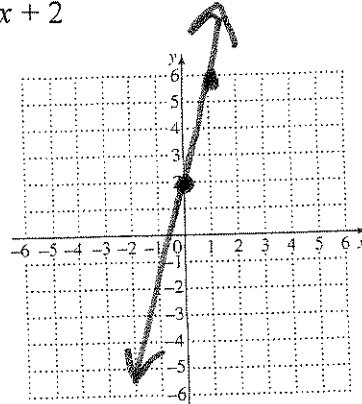


Graph by hand.

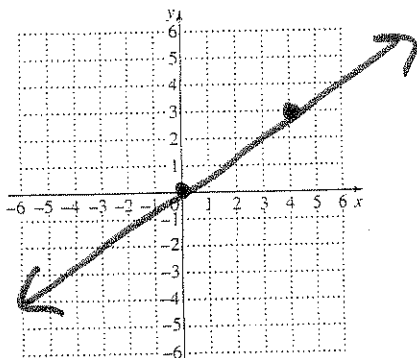
4. $y = 6$



6. $y = 4x + 2$

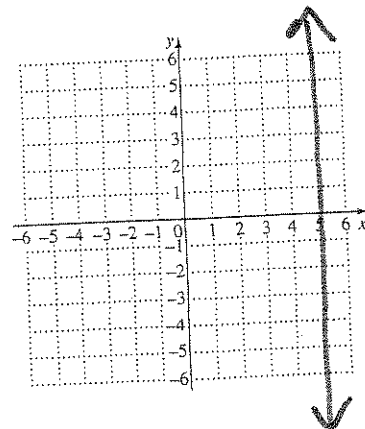


5. $y = \frac{3}{4}x$



7. $x + 1 = 6$

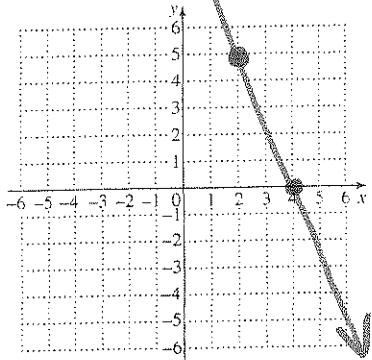
$x = 5$



35

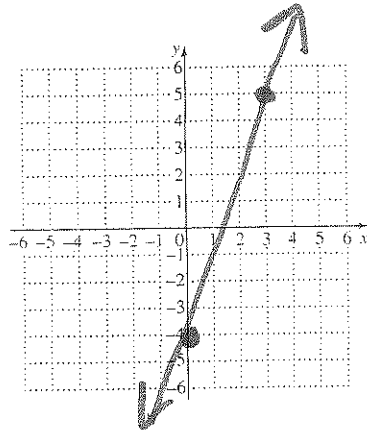
8. $5x + 2y = 20$

$$\begin{array}{r|l} x & y \\ 2 & 5 \\ 4 & 0 \\ 0 & 10 \end{array}$$



9. $3x - y = 4$

$$\begin{array}{r|l} x & y \\ 3 & 5 \\ 0 & -4 \end{array}$$



10. Find the x-intercept and y-intercept of: $4x - 3y = 36$

$$\begin{aligned} x &= 9 \\ y &= -12 \end{aligned}$$

10. $\frac{x=9}{y=-12}$

11. For the Presidential election, Ryan stuffed fliers into envelopes for Barack Obama. He worked from 2:10 pm until 4:40 pm and completed 360 envelopes. At what rate did Ryan stuff envelopes? Your answer should include correct units.

$$\frac{360 \text{ envelopes}}{150 \text{ minutes}} = 2.4 \text{ envelopes per minute}$$

$$360 / 2.5 = \text{ or } 144 \text{ envelopes/hour}$$

12. On the way to his favorite fishing spot near Yosemite National Park, Miguel hikes up Old Priest Mountain which rises about 1500 feet on a 2 mile hike. What is the grade of incline? (Hint: 1 mile = 5280 feet)

$$\frac{1500 \text{ ft}}{10560 \text{ ft}} = .1420 = 14\%$$

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13. Find the slope and y-intercept of the line: $8y + 3x = 4$

$$8y = -3x + 4$$
$$y = -\frac{3}{8}x + \frac{4}{8}$$

13. $m = -\frac{3}{8}$
 $b = \frac{1}{2}$

14. Find the slope of the line containing the points $(-6, -5)$ and $(2, 1)$.

$$m = \frac{1 - (-5)}{2 - (-6)} = \frac{1 + 5}{2 + 6} = \frac{6}{8} = \frac{3}{4}$$

14. $\frac{3}{4}$

15. Find the equation of a line with slope -3 and y-intercept $(0, -2)$.

15. $y = -3x - 2$

$$y = -3x - 2$$

16. Determine, without graphing, if the given pair of lines is parallel, perpendicular, or neither.

$$-9x + 7y = 10$$
$$7y = 9x + 4$$

$$7y = 9x + 10$$
$$y = \frac{9}{7}x + \frac{10}{7}$$

$$m_1 = \frac{9}{7}$$

$$7y = 9x + 4$$
$$y = \frac{9}{7}x + \frac{4}{7}$$

$$m_2 = \frac{9}{7}$$

17. Determine, without graphing, if the given pair of lines is parallel, perpendicular, or neither.

$$y = -2x + 5 \rightarrow m_1 = -2$$
$$2y - x = 6$$

$$2y = x + 6$$

$$y = \frac{x}{2} + \frac{6}{2}$$

$$y = \frac{1}{2}x + 3$$

$$m_2 = \frac{1}{2}$$

17. perpendicular

18. Find the equation of the line of slope -3 that contains the point (6, 8)

18. $y = -3x + 26$

$$y - 8 = -3(x - 6)$$

$$y - 8 = -3x + 18$$

$$\begin{array}{r} y - 8 \\ +8 \\ \hline y = -3x + 26 \end{array}$$

19. Find the equation of the line containing the points (7, -2) and (5, -1).

19. $y = -\frac{1}{2}x + \frac{3}{2}$

$$m = \frac{-1 - (-2)}{5 - 7} = \frac{-1 + 2}{5 - 7} = \frac{1}{-2} = -\frac{1}{2}$$

$$y - (-2) = -\frac{1}{2}(x - 7)$$

$$y + 2 = -\frac{1}{2}x + \frac{7}{2}$$

$$\begin{array}{r} y + 2 \\ -2 \\ \hline y = -\frac{1}{2}x + \frac{7}{2} - 2 \end{array}$$

$$y = -\frac{1}{2}x + \frac{7}{2} - \frac{4}{2}$$

20. Find the equation of the line that is perpendicular to the line $x - y = 3$ and that contains the point (3, 7).

$$x - y = 3$$

$$-y = -x + 3$$

$$y = x - 3$$

$$y - 7 = -1(x - 3)$$

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

$$\begin{array}{r} y - 7 \\ +7 \\ \hline y = -x + 10 \end{array}$$

$y = -x + 10$

slope of perp. line

$$m = -\frac{1}{1} = -1$$