

1. Tell whether the lines are parallel, perpendicular, or neither. (2.2)

Line 1: through (4, -2) and (5, -7)

Line 2: through (2, 3) and (1, 8)

2. What is the y-intercept and x-intercept of $7x - 4y = 9$? (2.3)

3. Write an equation of a line in slope-intercept form, point-slope form, and standard form that passes through the point (-4, 3) and has a slope of 2. (2.4)

a) slope-intercept form:

b) point-slope form:

c) standard form:

4. Solve the system algebraically (3.2)

a)
$$\begin{cases} 3x - 11y = 16 \\ x + y = 3 \end{cases}$$

b)
$$\begin{cases} 6x - 12y = 16 \\ 3x - 6y = 8 \end{cases}$$

5. Write equations for the situations below: (2.4)

a) (1, -4); parallel to $y = -3x + 8$

b) (9, -1); perpendicular to $y = \frac{1}{4}x - 7$

6.
$$\begin{aligned} ax + by &= 12 \\ 2x + 8y &= 60 \end{aligned}$$

In the system of equations above, a and b are constants. If the system has infinitely many solutions, what is the value of $\frac{a}{b}$? (3.2)

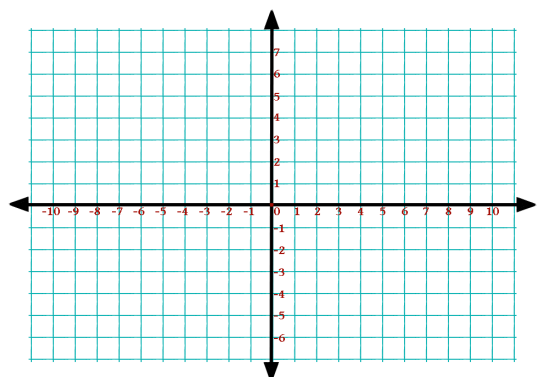
7. $A = \frac{1}{2}bh$

The area of a triangle depends on the base and height of the triangle. The formula above shows the relationship between A , the area of a triangle, b , the length of the base of a triangle, and h , the length of the height of a triangle. Rewrite the expression so that the height is in terms of the area and base. (1.4)

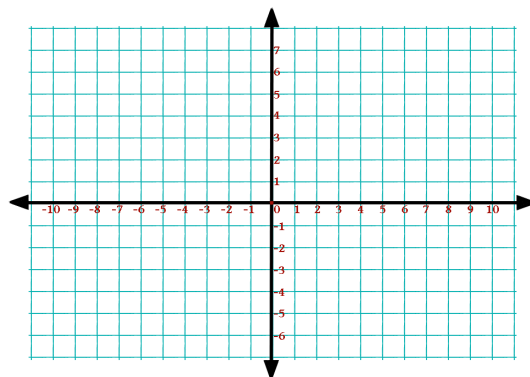
8. Jeremiah bought a pair of pants and a briefcase at a department store. The sum of the prices before sales tax was \$130.00. There was no sales tax on the pants and a 9% sales tax on the briefcase. The total Jeremiah paid, including the sales tax, was \$136.75. What was the price, in dollars, of the pants? (3.2)

9. Solve the system of equations graphically: (3.1), (3.3)

a)
$$\begin{cases} 2y = -5x - 10 \\ 5x + 2y = -2 \end{cases}$$



b)
$$\begin{cases} x + y \geq -3 \\ -6x + 4y < 14 \end{cases}$$



10. Solve for c in the equation $a = \frac{b}{c} - 1$. (1.4)

11. Solve for y in the equation $\frac{1}{x} + \frac{1}{y} = 1$. (1.4)

12. Solve the following inequalities, write the solution in **interval notation**: (1.6)

a) $2 \leq 3x - 1 < 6$

b) $-x - 4 \geq 1$ or $2 - 5x < -8$