

Solve each equation.

$$1) 7(2x + 4) + 5 = 89$$

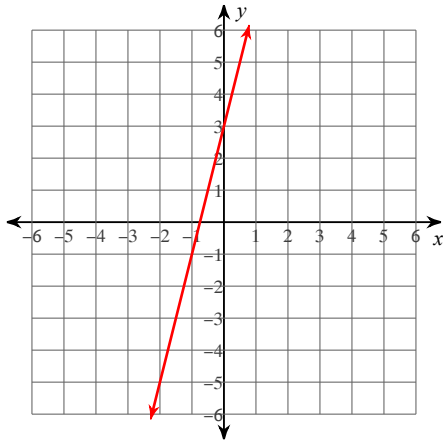
$$\{4\}$$

$$2) -6 = \frac{n}{4} - 3$$

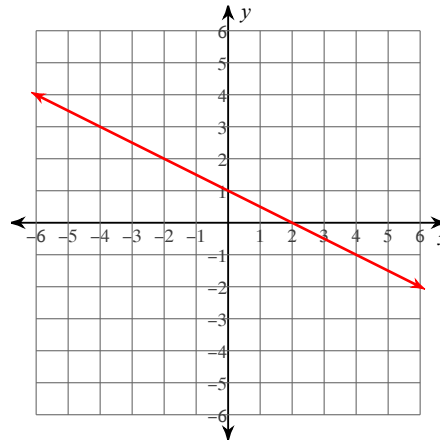
$$\{-12\}$$

Sketch the graph of each line.

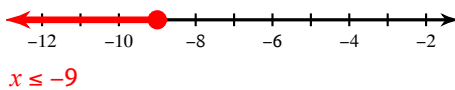
$$3) y = 4x + 3$$



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

**Solve each inequality and graph its solution.**

$$5) \frac{x}{3} - 5 \leq -8$$



$$6) -2p - 5 > -15$$

**Write the point-slope form of the equation of the line through the given points.**

$$7) \text{ through: } (-5, -3) \text{ and } (2, 1)$$

$$y + 3 = \frac{4}{7}(x + 5) \text{ or } y - 1 = \frac{4}{7}(x - 2)$$

Write the slope-intercept form of the equation of the line through the given points.

$$8) \text{ through: } (5, 1) \text{ and } (0, 4)$$

$$y = -\frac{3}{5}x + 4$$

Solve the system of linear equations.

$$9) \begin{aligned} x - 3y &= -3 \\ -3x + 3y &= -9 \end{aligned}$$

$$(6, 3)$$

Solve the system of linear equations.

10) $-6x + 7y = -13$
 $y = 3x - 4$
 $(1, -1)$

11) Write an equation to model the situation: The population of Pileated Woodpeckers in Howarth Park is 43 and increasing by 12% each year.
 $y = (1.12)^x$

12) Write an equation to model the situation: The population of Acorn Woodpeckers in Howarth Park is 253 and decreasing by 3% each year.
 $y = (.97)^x$

Find the mode, median, mean, and sample standard deviation for each data set.

13) Average Lifespan

Animal	Years	Animal	Years
Snapping Turtle	57	Canary	20
Humming Bird	8	Ant (Worker)	1.5
Guinea Pig	8	Squirrel	16
Lobster	15	Alligator	68
Hellbender	29		

Mode = 8, Median = 16, Mean = 24.72
and $s = 22.98$

14) Sales Tax

State	Percent	State	Percent
Michigan	6	Tennessee	7
Oregon	0	Missouri	4.23
South Carolina	6	Iowa	6
Alabama	4	Delaware	0
Georgia	4	Maryland	6

Mode = 6, Median = 5.115,
Mean = 4.32 and $s = 2.49$

15) Use the information to solve for x : Point B is between points A and C on segment AC. $AB = 2x$, $BC = 3x - 1$, and $AC = 7x - 4$
 $x = 3/2$

16) Use the information to solve for x : Point B is between points A and C on segment AC. $AB = 3x$, $BC = 2x + 11$, and $AC = 11x - 4$
 $x = 5/2$

Find the midpoint of the line segment with the given endpoints.

17) $(2, -7)$, $(10, 9)$
 $(6, 1)$

18) $(10, 3)$, $(1, -9)$
 $(\frac{11}{2}, -3)$

Find the distance between each pair of points.

19) $(-1, -6)$, $(-4, -3)$
 $\sqrt{18}$

20) $(-6, 8)$, $(-6, -3)$
11