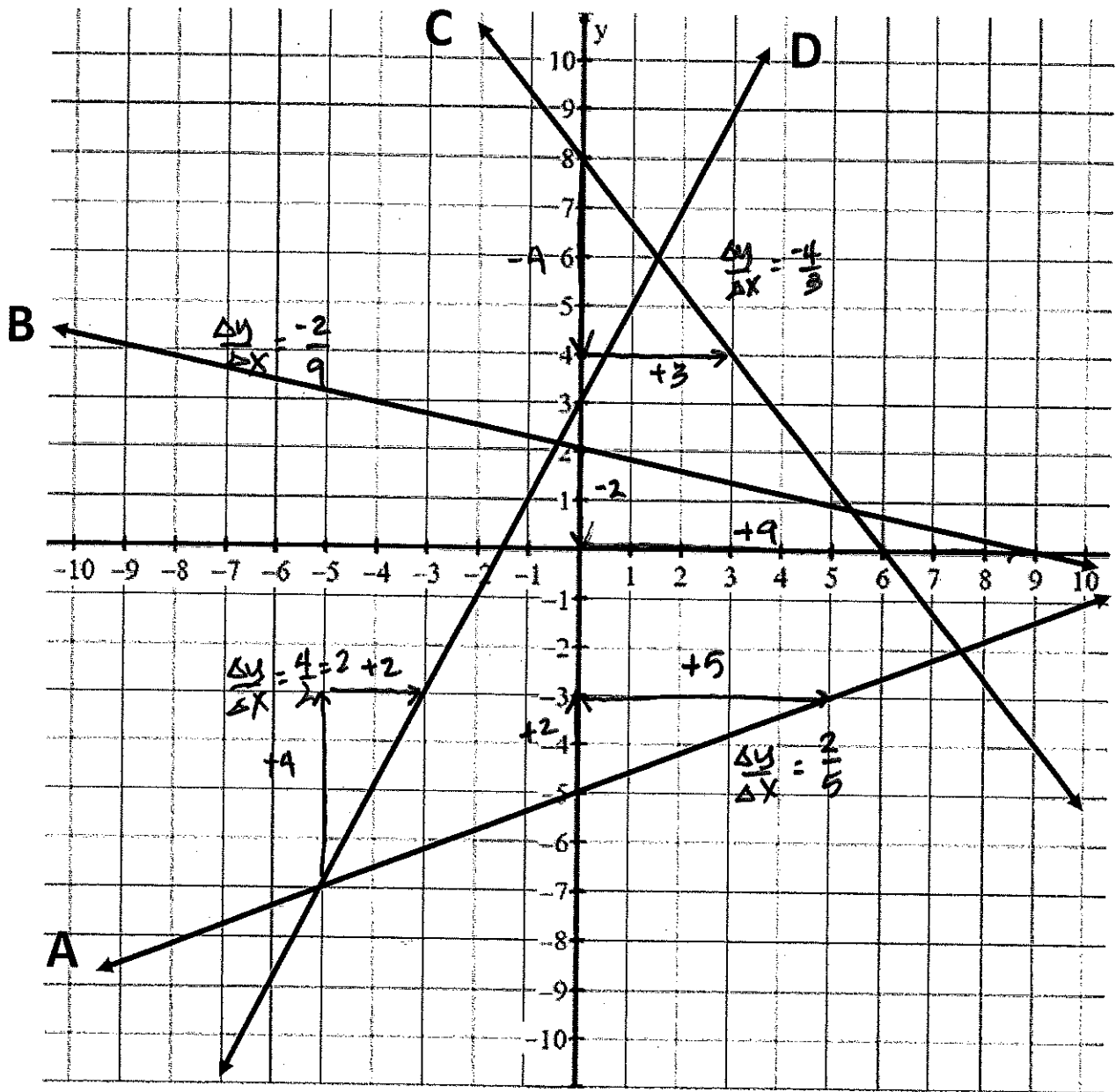


Write the equations of the lines plotted on the graph below.



A.  $y = \frac{2}{5}x - 5$

B.  $y = -\frac{2}{9}x + 2$

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

D.  $y = 2x + 3$

Write the equation for the line connecting each pair of points.

1. (3, 1) and (9, 5)

$$+6 \angle \begin{matrix} (3, 1) \\ (9, 5) \end{matrix} \rangle +4$$

$$\frac{\Delta y}{\Delta x} = \frac{4}{6} = \frac{2}{3}$$

$$\begin{aligned} y &= mx + b \\ y &= \frac{2}{3}x + b \\ 1 &= \frac{2}{3}(3) + b \\ -1 &= 2 + b \\ \hline -1 &= b \end{aligned}$$

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

2. (1, 1) and (-2, 7)

$$-3 \angle \begin{matrix} (1, 1) \\ (-2, 7) \end{matrix} \rangle +6$$

$$\frac{\Delta y}{\Delta x} = \frac{6}{-3} = -2$$

$$\begin{aligned} y &= mx + b \\ y &= -2x + b \\ 1 &= -2(1) + b \\ 1 &= -2 + b \\ +2 \quad +2 \\ \hline 3 &= b \end{aligned}$$

$$y = -2x + 3$$

3. (-4, -3) and (8, 0)

$$+12 \angle \begin{matrix} (-4, -3) \\ (8, 0) \end{matrix} \rangle +3$$

$$\frac{\Delta y}{\Delta x} = \frac{3}{12} = \frac{1}{4}$$

$$\begin{aligned} y &= mx + b \\ y &= \frac{1}{4}x + b \\ 0 &= \frac{1}{4}(8) + b \\ 0 &= 2 + b \\ -2 \quad -2 \\ \hline -2 &= b \end{aligned}$$

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

4. (-1, 4) and (-4, -5)

$$-3 \angle \begin{matrix} -1, 4 \\ -4, -5 \end{matrix} \rangle -9$$

$$\frac{\Delta y}{\Delta x} = \frac{-9}{-3} = 3$$

$$\begin{aligned} y &= mx + b \\ y &= 3x + b \\ 4 &= 3(-1) + b \\ 4 &= -3 + b \\ +3 \quad +3 \\ \hline 7 &= b \end{aligned}$$

$$y = 3x + 7$$

Solve the following problems.

1. Yianni raked 3 bags of leaves in 15 minutes. How long would it take him to rake 5 bags?

$$\frac{\text{minutes}}{\text{bags}}$$

$$(5) \frac{15}{3} = \frac{x}{5} (5)$$
$$25 = x$$

$$25 \text{ minutes}$$

2. Dr. P drove 110 miles and used 5 gallons of gas. How many miles can she travel with 16 gallons of gas?

$$\frac{\text{miles}}{\text{gallons}}$$

$$(16) \frac{110}{5} = \frac{x}{16} (16)$$
$$352 = x$$

$$352 \text{ miles}$$

3. Marissa ran 1.5 miles in 17 minutes. If she continues at this pace how long will it take her to run 10 miles?

$$\frac{\text{minutes}}{\text{miles}}$$

$$(10) \frac{17}{1.5} = \frac{x}{10} (10)$$
$$113.3 = x$$

$$113.3 \text{ minutes}$$

or

$$1 \text{ hr. } 53.3 \text{ minutes}$$

4. Jaime earned \$25 for babysitting for 3 hours. If they always charge the same rate, how much will they earn for 7 hours of babysitting?

$$\frac{\text{Dollars}}{\text{hours}}$$

$$(7) \frac{25}{3} = \frac{x}{7} (7)$$
$$58.33 = x$$

$$\$58.33$$

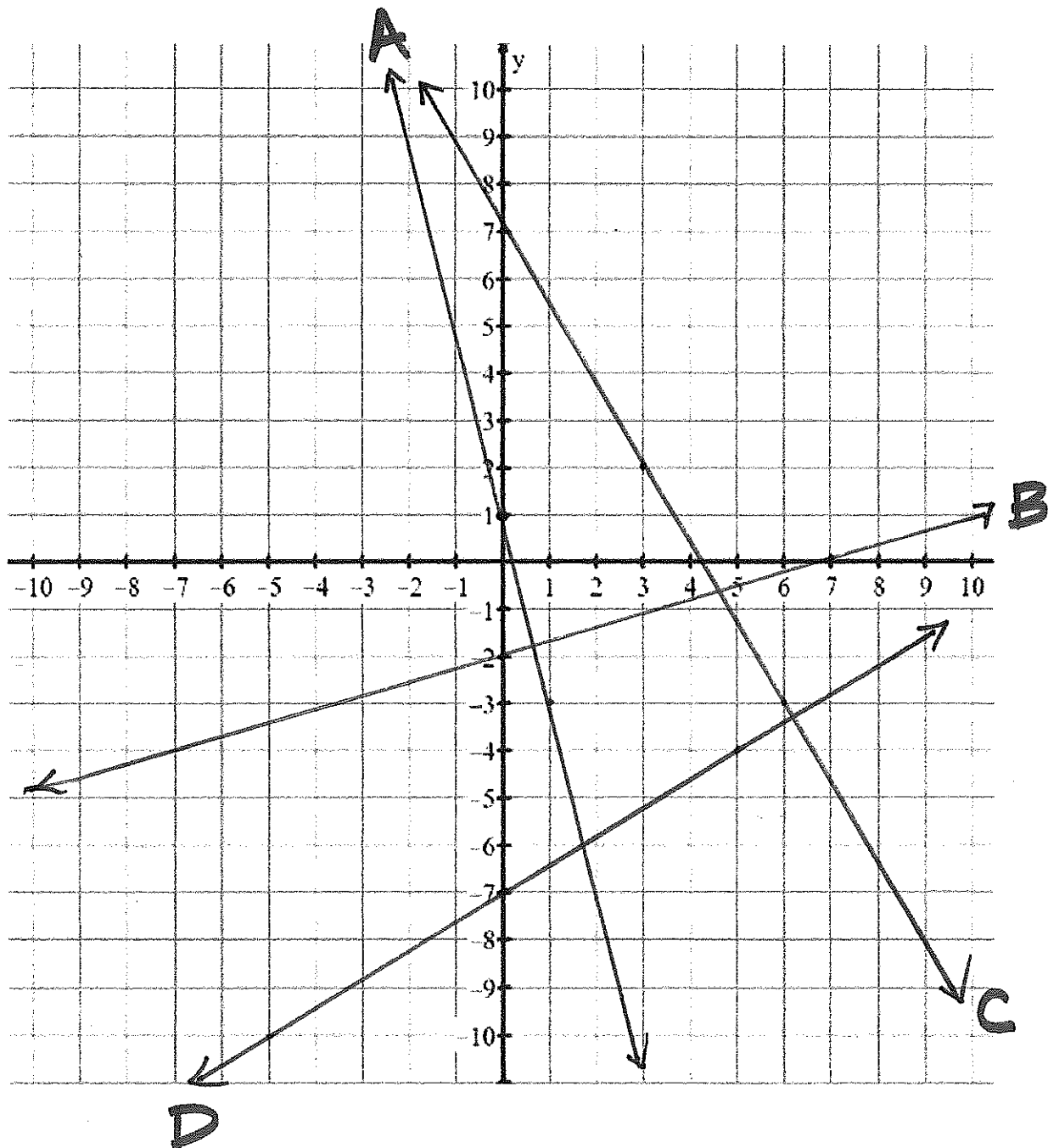
Graph the following equations:

A.  $y = -4x + 1$

B.  $y = \frac{2}{7}x - 2$

C.  $y = -\frac{5}{3}x + 7$

D.  $y = \frac{3}{5}x - 7$



Solve each of the following for x.

$$3(-1)(4x+5) - 2 = 3x(-2)(7-6x)$$

$$3-4x-5-2 = 3x-14+12x$$

$$3-4x-7 = 15x-14$$

$$-4x-4 = 15x-14$$

$$\begin{array}{r} +14 \\ \hline \end{array}$$

$$\begin{array}{r} 10-4x = 15x \\ +4x \quad +4x \\ \hline \end{array}$$

$$\frac{10}{19} = \frac{19x}{19}$$

$$\boxed{\frac{10}{19} = x}$$

$$3(5x-1) + 6 - 4x = 1-5(3x+1)$$

$$15x-3+6-4x = 1-15x-5$$

$$3+11x = -4-15x$$

$$\begin{array}{r} +15x \\ \hline \end{array}$$

$$\begin{array}{r} 3+26x = -4 \\ -3 \quad -3 \\ \hline \end{array}$$

$$26x = -7$$

$$\frac{26x}{26} = \frac{-7}{26}$$

$$\boxed{x = \frac{-7}{26}}$$

$$7x+3(2x-2) = 3-4(2x+1)$$

$$7x+6x-6 = 3-8x-4$$

$$13x-6 = -1-8x$$

$$\begin{array}{r} +8x \\ \hline \end{array}$$

$$\begin{array}{r} 21x-6 = -1 \\ +6 \quad +6 \\ \hline \end{array}$$

$$21x = 5$$

$$\frac{21x}{21} = \frac{5}{21}$$

$$\boxed{x = \frac{5}{21}}$$

$$-x-3x+2(4x-3) = 6x+5+2(5x+7)$$

$$-4x+8x-6 = 6x+5+10x+14$$

$$4x-6 = 16x+19$$

$$\begin{array}{r} -4x \\ \hline \end{array}$$

$$\begin{array}{r} -6 = 12x+19 \\ -19 \quad -19 \\ \hline \end{array}$$

$$\begin{array}{r} -25 = 12x \\ 12 \quad 12 \\ \hline \end{array}$$

$$\frac{-25}{12} = \frac{12x}{12}$$

$$\boxed{\frac{-25}{12} = x}$$