

$$1) 2 + 6X - 12 - 4X - 28$$

$$2X - 38$$

$$2) \begin{array}{r} X \quad -2 \\ 5 \overline{) 5X \quad -10} \end{array}$$

$$\begin{array}{r} 2X + 1 \\ 7 \overline{) 14X \quad + 7} \end{array}$$

$$5X - 10 + 14X + 7$$

$$\underline{19X - 3}$$

$$3) a) 20X + 70 = y \quad \begin{array}{l} y = \$ \text{ Olivia has} \\ x = \# \text{ of weeks babysitting} \end{array}$$

$$b) 20(5) + 7 = \$170$$

$$c) \begin{array}{r} 200 = 20X + 70 \\ -70 \quad -70 \\ \hline 130 = 20X \end{array}$$

$$\frac{130}{20} = \frac{20X}{20}$$

$$6.5 = X \approx 7 \text{ weeks}$$

$$4) 5X - 10 + 4X + 28 = 2 + 6X - 3 + 4X$$

$$\begin{array}{r} 9X + 18 = 10X - 1 \\ -9X \quad -9X \\ \hline 18 = 1X - 1 \end{array}$$

$$\begin{array}{r} 18 = 1X - 1 \\ +1 \quad +1 \\ \hline 19 = X \end{array}$$

$$5) a) 5X + 2 = 5X + 5$$

same slope, different y-intercept

$$b) 3X + 1 = 3X + 1$$

same slope, same y-intercept

$$6) \quad 15X + 64 = 500$$

$$\quad \quad \quad -64 \quad -64$$

$X = \#$ of weeks

$$\frac{15X}{15} = \frac{436}{15}$$

$$X = 29.066... \approx 30 \text{ weeks}$$

7) a) where the two equations intersect

b) $X = -1$ and $X = 2$ ~~\emptyset~~

8) $X \leq 100$
 $[0, 100]$

$X = \#$ of miles driven
 each week



9) $3(4 - X) > 12X + 34 - 5X$

$$\begin{array}{r} 12 - 3X > 7X + 34 \\ + 3X \quad + 3X \end{array}$$

$$\begin{array}{r} 12 > 10X + 34 \\ -34 \quad -34 \end{array}$$

$$\frac{-22}{10} > \frac{10X}{10}$$

$$-2.2 > X$$



10) $3 + 0.25X \leq 10$

$$\begin{array}{r} -3 \quad -3 \end{array}$$

$$\frac{0.25X}{0.25} \leq \frac{7}{0.25}$$

$$X \leq 28$$

$$[0, 28]$$

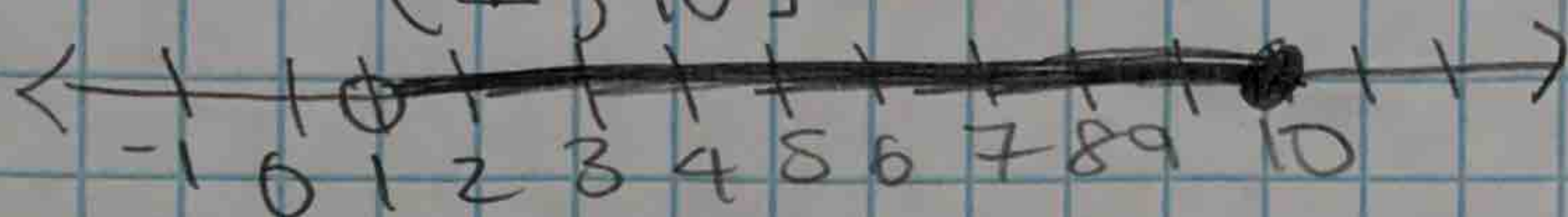
$X = \#$ of games
 played

$$11) \quad \begin{array}{r} -4 < 2x - 6 \leq 14 \\ +6 \quad \quad +6 \quad \quad +6 \end{array}$$

$$\frac{2}{2} < \frac{2x}{2} \leq \frac{20}{2}$$

$$1 < x \leq 10$$

$$(1, 10]$$



$$12) \quad 2(45) \leq x \leq 5(45)$$

$$90 \leq x \leq 225$$

x = amount of \$ spent on gas each month

$$13) \quad \begin{array}{r} 3 - 5x < 28 \\ -3 \quad \quad -3 \end{array}$$

or

$$\begin{array}{r} 3x + 7 \leq 21 \\ -7 \quad \quad -7 \end{array}$$

$$\frac{-5x}{-5} < \frac{25}{-5}$$

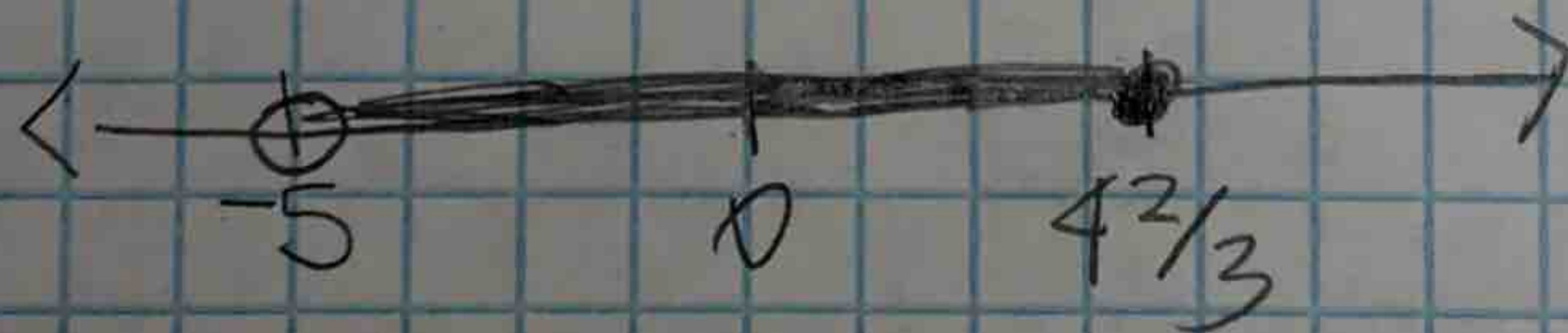
$$x > -5$$

$$(-5, \infty)$$

$$\frac{3x}{3} \leq \frac{14}{3}$$

$$x \leq 4\frac{2}{3}$$

$$(-\infty, 4\frac{2}{3}]$$



14) x = height of people that cannot ride the ride (inches)

$$x < 36$$

or

$$x > 60$$

$$[0, 36)$$

$$(60, \infty)$$