

Solve for x:

$$7 - 2(5x - 2) = -9$$

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

$$\begin{array}{r} 11 - 10x = -9 \\ -11 \quad -11 \\ \hline \end{array}$$

$$\begin{array}{r} -10x = -20 \\ -10 \quad -10 \\ \hline \end{array}$$

$$\boxed{x = 2}$$

Solve for x:

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

$$\begin{array}{r} -3x \quad -3x \\ \hline -12 = 14 + 2x \\ -14 \quad -14 \\ \hline -26 = 2x \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline \boxed{-13 = x} \end{array}$$

Solve for x:

$$8(x - 3) + 8 = 5x - 22$$

$$8x - 24 + 8 = 5x - 22$$

$$\begin{array}{r} 8x - 16 = 5x - 22 \\ -5x \quad -5x \\ \hline \end{array}$$

$$\begin{array}{r} 3x - 16 = -22 \\ +16 \quad +16 \\ \hline \end{array}$$

$$\begin{array}{r} 3x = -6 \\ \frac{3}{3} \quad \frac{-6}{3} \\ \hline \end{array}$$

$$\boxed{x = -2}$$

Solve for x:

$$5 + 3x = 7(x + 3)$$

$$\begin{array}{r} 5 + 3x = 7x + 21 \\ -3x \quad -3x \\ \hline 5 = 4x + 21 \\ -21 \quad -21 \\ \hline \end{array}$$

$$\begin{array}{r} -16 = 4x \\ \frac{-16}{4} \quad \frac{4x}{4} \\ \hline \end{array}$$

$$\boxed{-4 = x}$$

Solve for x:

$$\begin{array}{r} 7x + 4 = 15 - 4x \\ -4 \quad -4 \\ \hline 7x = 11 - 4x \\ +4x \quad +4x \\ \hline 11x = 11 \\ \frac{11x}{11} = \frac{11}{11} \\ \boxed{x=1} \end{array}$$

Solve for x:

$$\begin{array}{r} 2(3x-1) - x = 13 \\ 6x - 2 - x = 13 \\ 5x - 2 = 13 \\ +2 \quad +2 \\ \hline 5x = 15 \\ \frac{5x}{5} = \frac{15}{5} \\ \boxed{x=3} \end{array}$$

Solve for x:

$$\begin{array}{r} \frac{1}{4}x - 2 = 3 \\ +2 \quad +2 \\ \hline (\frac{4}{1})\frac{1}{4}x = 5(4) \\ \boxed{x=20} \end{array}$$

Solve for x:

$$\begin{array}{r} 3x + 5x + 4 - x = 81 \\ 8x + 4 - x = 81 \\ 7x + 4 = 81 \\ -4 \quad -4 \\ \hline 7x = 77 \\ \frac{7x}{7} = \frac{77}{7} \\ \boxed{x=11} \end{array}$$

Solve for x:

$$-20x + 15 = 2(1 - 8x) + 11$$

$$-20x + 15 = 2 - 16x + 11$$

$$-20x + 15 = 13 - 16x$$

$$\begin{array}{r} +20x \\ +20x \end{array}$$

$$\hline 15 = 13 + 4x$$

$$\begin{array}{r} -13 \\ -13 \end{array}$$

$$\frac{2}{4} = \frac{4x}{4}$$

$$\boxed{\frac{1}{2} = x}$$

Solve for x:

$$4(2x + 3) = -3x + 34$$

$$8x + 12 = -3x + 34$$

$$\begin{array}{r} +3x \\ +3x \end{array}$$

$$\hline 11x + 12 = 34$$

$$\begin{array}{r} -12 \\ -12 \end{array}$$

$$\hline 11x = 22$$

$$\frac{11x}{11} = \frac{22}{11}$$

$$\boxed{x = 2}$$

Find the slope between the following points:

$$(-4, 7) \quad (-6, -4)$$

$$-2 < \begin{array}{r} -4, 7 \\ -6, -4 \end{array} > -11$$

$$\boxed{\frac{\Delta y}{\Delta x} = \frac{-11}{-2} = \frac{11}{2}}$$

Find the slope between the following points:

$$(19, 3) \quad (15, 3)$$

$$-4 < \begin{array}{r} 19, 3 \\ 15, 3 \end{array} > +0$$

$$\boxed{\frac{\Delta y}{\Delta x} = \frac{0}{-4} = 0}$$

REMEMBER, slope = 0 is NOT the same as No Slope.

Find the slope between the following points:

$$(3, -20) \quad (5, 8)$$

$$+2 < \begin{matrix} 3, -20 \\ 5, 8 \end{matrix} > +28$$

$$\frac{\Delta y}{\Delta x} = \frac{28}{2} = 14$$

Find the slope between the following points:

$$(9, 3) \quad (19, -17)$$

$$+10 < \begin{matrix} 9, 3 \\ 19, -17 \end{matrix} > -20$$

$$\frac{\Delta y}{\Delta x} = \frac{-20}{10} = -2$$

Find the slope between the following points:

$$(2, 7) \quad (2, 10)$$

$$+0 < \begin{matrix} 2, 7 \\ 2, 10 \end{matrix} > +3$$

$$\frac{\Delta y}{\Delta x} = \frac{3}{0} \text{ undefined!}$$

NO SLOPE

Is this data linear? YES

	$\overset{+2}{-2}$	$\overset{+2}{0}$	$\overset{+2}{2}$	$\overset{+2}{4}$
x	-2	0	2	4
y	10	8	6	4
	$\underset{-2}{-2}$	$\underset{-2}{-2}$	$\underset{-2}{-2}$	

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

Constant slope between ALL points

Is this data linear?

X	0	1	3	4	6
Y	10	13	19	22	28

$\begin{matrix} \wedge^1 & \wedge^2 & \wedge^1 & \wedge^2 \\ +3 & +6 & +3 & +6 \end{matrix}$

$$\frac{\Delta y}{\Delta x} = \frac{3}{1} = \frac{6}{2} = \frac{3}{1} = \frac{6}{2} = 3$$

YES Constant slope of 3 between ALL points

Is this data linear?

X	1	3	5	7
Y	7	9	10	12

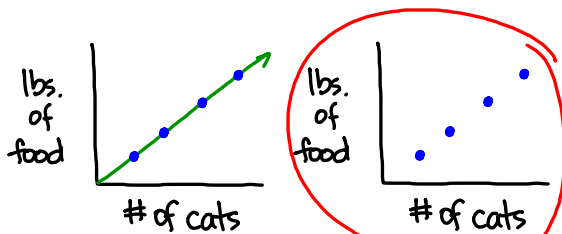
$\begin{matrix} \wedge^2 & \wedge^2 & \wedge^2 \\ +2 & +1 & +2 \end{matrix}$

$$\frac{\Delta y}{\Delta x} = 1 \quad \frac{\Delta y}{\Delta x} = \frac{1}{2} \quad \frac{\Delta y}{\Delta x} = 1$$

NOT linear because there is NOT a constant slope between ALL points.

Which is the correct way to graph the following data?

Amount of Cat Food Eaten

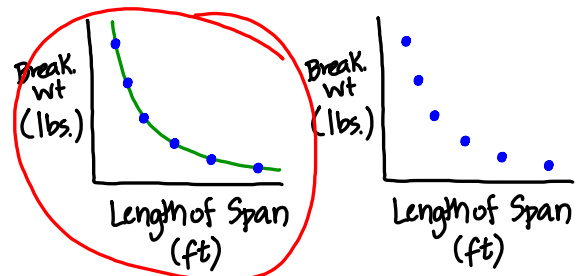


**CORRECT** because

even though we can have fractions of a pound, we CANNOT have a fraction of a cat.

Which is the correct way to graph the following data?

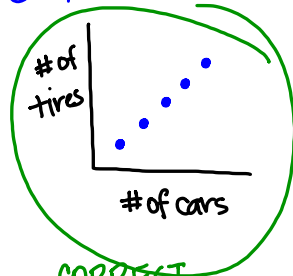
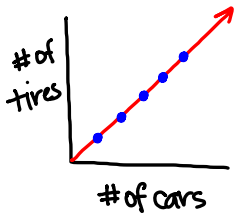
Breaking Weight of Bridge Spans



**CORRECT** because we can have a fraction of both pounds and feet so there are possible data points between the ones already drawn.

Which is the correct way to graph the following data?

Total Tires in a Parking Lot  
(assuming only cars park)



CORRECT

because we cannot have  
a fraction of a car or a  
fraction of a tire.