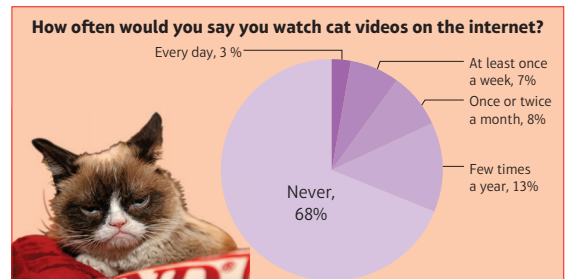


NAME: _____ PERIOD: _____ DATE: _____

Homework Problem Set

Reading Data

1. The Roper Center collected data on about how often people say they watch cat videos on the internet.



Cat © JStone/Shutterstock.com; Data source: CBS News, 2013

A. In a randomly selected group of 50 people, how many would you expect to watch a cat video once or twice a month, based on this graph?

8% of 50 people

$$.08 \times 50 = 4 \text{ people}$$

4 people watch cat videos once or twice a month.

B. Do you think this data is accurate? Explain your thinking.

Answers will vary.

Ex. Depends upon personal opinion on entertainment value of watching cat videos.

C. Do you think that the age of the viewer has any effect on the survey results? Explain.

Answers will vary.

2. A CBS News/Vanity Fair poll asked Americans about their preferred superpower.



Image © Andrey Burmakin/Shutterstock.com

A. Why do you think the percentages don't add up to 100?

The remaining 9% may have declined to state or had an answer unlike any other.

B. Out of 40 Americans, how many would you expect to say they would want telepathy as their superpower?

35% of 40 Americans

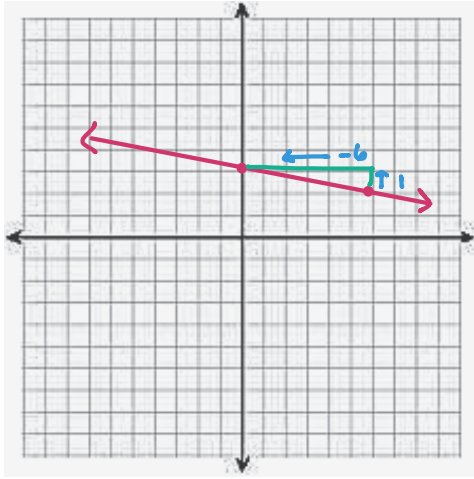
$$.35 \times 40 = 14 \text{ Americans}$$

14 Americans out of the 40 surveyed would say they want telepathy as their superpower.

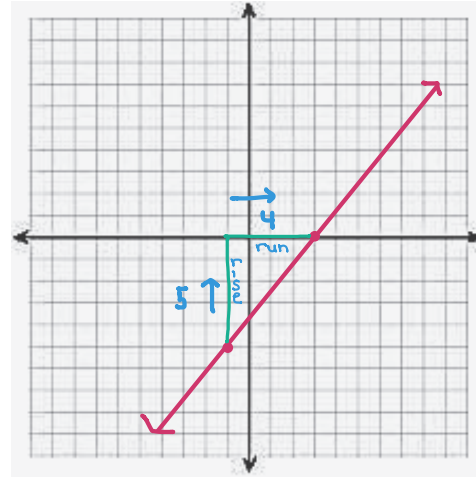
Spiral REVIEW—Finding Slope & Graphing Points

3. Graph the points given. Then connect the points to form a line.

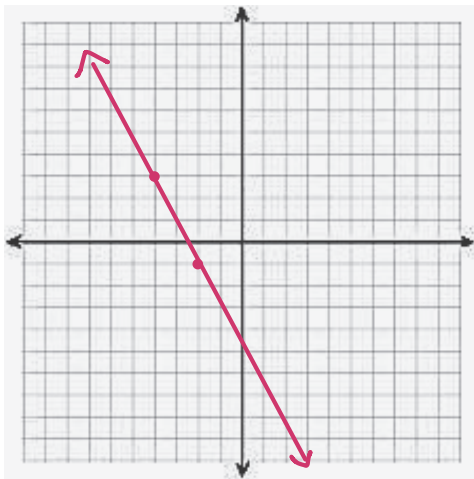
A. (0, 3) and (6, 2)



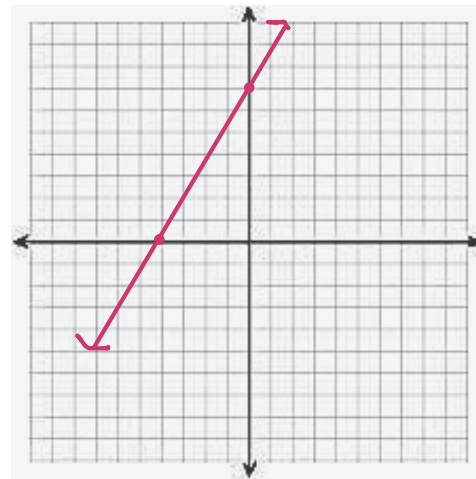
B. (-1, -5) and (3, 0)



C. (-4, 3) and (-2, -1)



D. (-4, 0) and (0, 7)



4. Determine the slope of each segment above. Remember the slope is the ratio of rise to run, $\frac{\text{rise}}{\text{run}}$. * Don't forget to simplify *

A. (0, 3) and (6, 2)

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{1}{-6} = \boxed{-\frac{1}{6}}$$

B. (-1, -5) and (3, 0)

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{5}{4} = \boxed{\frac{5}{4}}$$

C. (-4, 3) and (-2, -1)

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{4}{-2} = \frac{2}{-1} = \boxed{-2}$$

D. (-4, 0) and (0, 7)

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{7}{4} = \boxed{\frac{7}{4}}$$

The slope can also be determined using the formula, $\frac{y_2 - y_1}{x_2 - x_1}$, where (x_1, y_1) and (x_2, y_2) are 2 points on the segment or line.

5. Determine the slope of each set of points from Problem 3 using the formula. Did you get the same slopes as Problem 4?

A. $\overset{x_1}{(0, 3)}$ and $\overset{x_2}{(6, 2)}$
 Slope = $\frac{2-3}{6-0} = \frac{-1}{6}$

B. $\overset{x_1}{(-1, -5)}$ and $\overset{x_2}{(3, 0)}$
 Slope = $\frac{0-(-5)}{3-(-1)} = \frac{5}{4}$

C. $\overset{x_1}{(-4, 3)}$ and $\overset{x_2}{(-2, -1)}$
 Slope = $\frac{-1-3}{-2-(-4)} = \frac{-4}{2} = -2$

D. $\overset{x_1}{(-4, 0)}$ and $\overset{x_2}{(0, 7)}$
 Slope = $\frac{7-0}{0-(-4)} = \frac{7}{4}$

There are two special lines with unique slopes. These are horizontal and vertical lines.

6. Use the slope formula to find the slope of each set of points below.

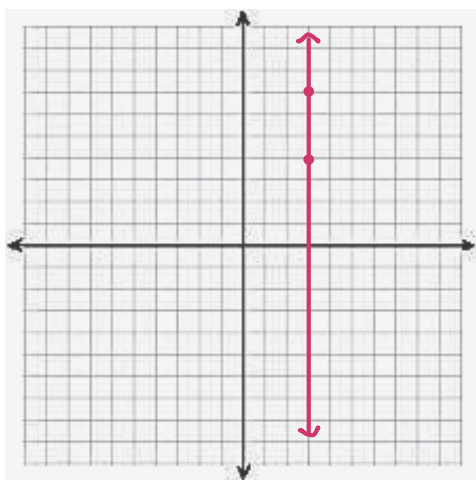
A. $(3, 4)$ and $(3, 7)$
 Slope = $\frac{7-4}{3-3} = \frac{3}{0} = \text{undefined}$

B. $(3, 4)$ and $(5, 4)$
 Slope = $\frac{4-4}{5-3} = \frac{0}{2} = 0$

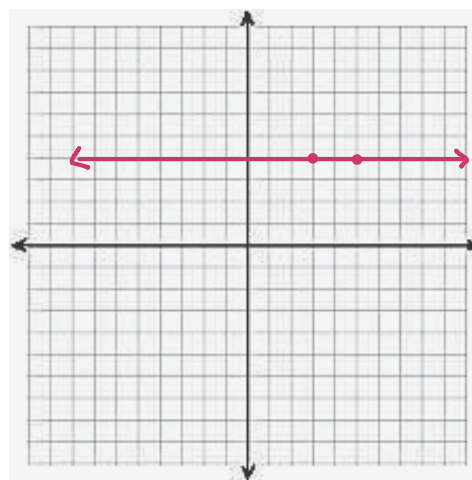
* cannot have 0 in denominator.

7. Graph the points from Problem 6. Then connect them to form a line.

A.



B.



8. Explain what it means to have a slope of 0.

A graph with a slope of 0 forms a
HORIZONTAL LINE.

9. Explain what it means to have an undefined slope.

A graph with an undefined slope is a
VERTICAL LINE