



Problem 1- Visually estimating slopes

Press [APPS] and select Cabri Jr. Open the file **MATHMAN**.

Math Man is cross-country skiing from left to right.

- Which part(s) of the hill has the best “ski slope” for Math Man? Explain.

Now open the file **DIPPER**. You will see a representation of the “Big Dipper”, a formation commonly recognized in the night sky.

The slopes of the lines of the segments are:

$\{-0.1, -0.2, -0.4, -9.5, -1.4, 2.7\}$

- Each segment is labeled with a letter. Match the slope with the segment. Record your answers below.
- How did you determine which slope belonged with which segment?

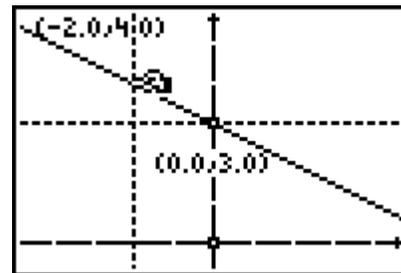
Self-Check Point

- I already know about $y = mx + b$ and what each letter means. True False

Problem 2 – Exploring precise slope

Open the file **SLOPE**.

Move the point at $(-2, 4)$, so the solid line has a slope of $\frac{2}{3}$.

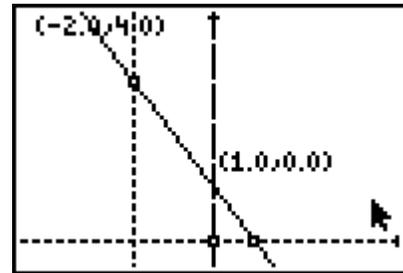


- What are the coordinates of your point?
- How did you determine where to place your point?
- What is the equation of the line in slope-intercept form?



Move the point at $(0, 3)$ to $(1, 0)$. Now move the other point so that you have the line $y = x - 1$.

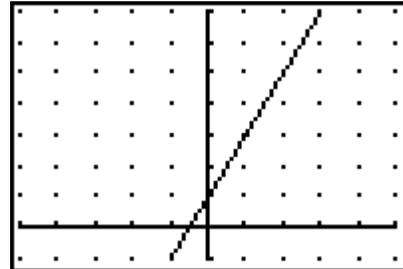
- What is the slope of the line?
- What are the coordinates of your point?
- Did your method of placing the point change? Explain why or why not.



Problem 3 – Slope-Intercept Equation

Use the graph at the right to answer the following questions. The points $(0, 1)$ and $(1, 3)$ are on the line.

- What is the slope of the line?
- What is the y -intercept of the line?
- What is the equation of the line?



Problem 4 – Assessing Understanding

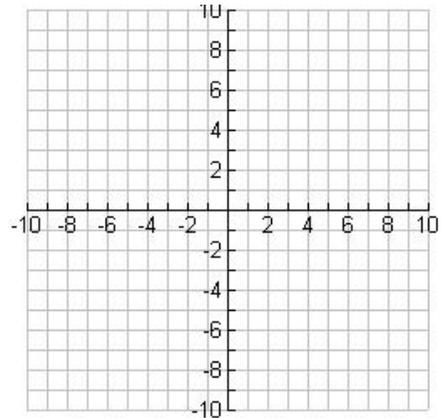
- What kind of line has a slope equal to 0?
- Name the slope and y -intercept: $y = -3x + 1$
- Name the slope and y -intercept: $y = \frac{2}{5}x - 8$
- Name the slope: $y + x = 9$
- Name the slope: $y = -4$



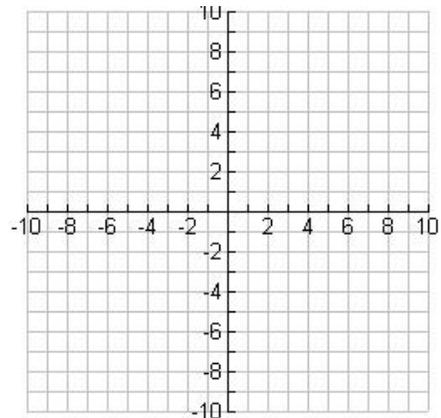
- True or False: $(0, 6)$ is the y -intercept of $y = 2x - 6$.
- True or False: $(0, 0)$ is the y -intercept of $y = -3x$.
- True or False: $(0, 4)$ is an x -intercept since $x = 0$.

Extensions/Homework

1. Draw a line on the graph at the right with y -intercept $(0, 4)$ and any positive slope. Write its equation.



2. Draw a line on this worksheet that goes through $(8, 3)$ and has slope $m = 1$. Write its equation.



3. Draw a horizontal line that goes through $(4, -1)$. Write its equation.

