Slope in the Real World

1. Michael Phelps dives off of a platform and the path of the dive creates a slope of $-5\text{ m/s}$. If the platform is at the coordinate point $(0, 10)$, at what point would he hit the water?

2. Tony Hawk is building a new skateboard ramp in his backyard. Beginning at the origin, the base of the ramp is 10 ft. long and it is 15 ft. high. What would be the slope of his ramp?

3. You go on a camping trip with your class and your Algebra teacher gives you directions back to the bus using what you learned about slope.

You are currently standing at point $(3, 2)$ You then walk:

- 1.5 units to the right
- 4 units down
- 2 units to the left
- 6 units up
- 7 units to the right

- At what coordinate point would the bus be located?

- What is the slope of the line between your origin and destination?
Linear Equations in the Real World

1. You and your friends are going to the carnival. There is a $5.00 entrance fee and tickets cost $0.50 each.
   a. What would be the cost for 5 and 10 rides?
   b. Graph the two points from (a), where $y$ represents the total cost and $x$ represents the number of rides.

   ![Graph](image)

   c. Draw a line between the two points.
   d. Determine where the line crosses the $y$-axis.
   e. Find the slope of the line.
   f. Write the equation of the line.

2. You buy a cell phone which costs $30, plus an additional $0.30 per minute.
   a. Write an equation to represent this situation.
   b. What is the slope? What does the slope represent in the context of the problem?
   c. What is the $y$-intercept? What does the $y$-intercept represent in the context of the problem?