

Lesson 2.1 - Modeling Linear Functions

1. When babysitting, Alexis charges an hourly rate and an additional charge for gas. She uses the function $A(h) = 15h + 6$ to determine how much to charge for babysitting.
 - a. What is the constant term of this function and what does it represent?
 - b. What is the hourly rate Alexis charges?
 - c. How much would Alexis earn if she babysat for 3 hours?

2. The amount of money a plumber charges is represented by the function $p(h) = 35 + 115h$.
 - a. What is the constant term of this function and what does it represent?
 - b. What is the hourly rate the plumber charges?
 - c. How much would the plumber earn if she worked for 5 hours?

Quiz 2.1 - Modeling Linear Functions

1. A cleaning company charges a set fee for a spring cleanup, plus an hourly labor rate. The total cost is modeled by the function $C(x) = 45x + 90$. In this function, what does the 45 represent?

- 1) the set fee for the cleanup
- 2) the hourly labor rate for a cleanup
- 3) the profit earned by the company for one cleanup
- 4) the number of hours of labor required for one cleanup

2. The amount of money a private chef charges is represented by the function $p(h) = 100 + 75h$. The best interpretation of the **constant** of this function is that the chef charges

- 1) \$100 to come to the house
- 2) \$75 per hour that he works
- 3) \$75 to come to the house
- 4) \$100 per hour that he works

Lesson 2.2 - Writing Linear Equations in Slope-intercept Form

| | |
|-------|-----------------------------------|
| Slope | $m = \frac{y_2 - y_1}{x_2 - x_1}$ |
|-------|-----------------------------------|

| | |
|------------------------------------|--------------|
| Linear Equation Slope Intercept | $y = mx + b$ |
|------------------------------------|--------------|

Given two points, find the slope, y-intercept and write the equation in slope intercept form

1. Write an equation of the line that passes through the points (-1, 8) and (4, -2).
2. Write an equation of the line that passes through the points (8, -6) and (-4, -12).

Quiz 2.2 - Writing Linear Equations in Slope-intercept Form

1. Write an equation of the line that passes through the points $(3, 7)$ and $(-2, -3)$ in slope intercept form.
2. Write an equation of the line that passes through the points $(-4, 6)$ and $(2, -3)$ in slope intercept form.

Lesson 2.3 - Writing Linear Equations in Point-Slope Form

| | |
|--------------------------------|------------------------|
| Linear Equation Point Slope | $y - y_1 = m(x - x_1)$ |
|--------------------------------|------------------------|

1. What is an equation of the line that passes through (2, 8) and has a slope of 2?
2. What is an equation of the line that passes through (-3, 9) and has a slope of -1
3. What is an equation of the line that passes through the points (-4, 8) and (4, 2)?

Quiz 2.3 - Writing Linear Equations in Point-Slope Form

1. What is an equation of the line that passes through $(5, 9)$ and has a slope of -3 ?
2. What is an equation of the line that passes through $(5, -9)$ and has a slope of 7 ?
3. What is an equation of the line that passes through the points $(-2, -5)$ and $(10, 1)$?