5.2: Write Linear Equations in Slope – intercept form

Goals: *Write an equation in slope – intercept form given slope and one point
*Write an equation in slope – intercept form given two points
*Write an equation in slope – intercept form given two function values

---

Situation 1: Write the equation of a line in slope – intercept form given the slope and one point:

1. _____ **Ex:** slope: –4, passes through (–1, 3)

2. _____

3. _____

Write the equation of the line with the given slope that passes through the given point.

Ex: (6, 3), slope = 2 **Ex:** (6, 3) slope: –2

Situation 2: write the equation of the line in slope – intercept form that passes through the given points:

1. _____ **Ex:** (–2, 5) (2, –1)

2. _____

3. _____

4. _____

Write the equation of the line in slope – intercept form that passes through the given points:

Ex: (3, 0) (2, –4)

Ex: (1, –2) (5, 4)

Ex: $f(4) = 9$ and $f(-4) = -7$

Ex: $f(-2) = 10$ and $f(4) = -2$

Ex: $f(2) = 8$ and $f(4) = -2$

Ex: Your gym membership costs $33 per month after an initial membership fee. You paid a total of $228 after 6 months. Write an equation for the total cost as a function of the number attended. Then find the total cost for 9 months.

Ex: In BMX racing, racers purchase a one-year membership to a track. They also pay an entry fee for each race at that track. One racer paid a total of $125 for 5 races. A second racer paid a total of $170 for 8 races. How much does each race cost? How much does the membership fee cost? Write an equation to find the total cost for any number of races.

Ex: For science class you need to know the Celsius equivalent of a room temperature of 70° Fahrenheit. To estimate, you use the facts that 32° Fahrenheit is equivalent to °0C and that 212°F is equivalent to 100°C. Write an equation to represent degrees Celsius, C, based on degrees Fahrenheit, F.