The Pumpkin Pi Bakery – Part 2.

Janelle and Hector work at the Pumpkin Pi Bakery as pie makers. Janelle can make 10 pies in 2 hours and Hector can make 9 pies in 3 hours. Assume these rates are constant. How much profit do they bring the bakery?

1. How many pies can Janelle and Hector make together in 1 hour? How many pies can Janelle and Hector make together in t hours?

2. Recall that the amount of profit the bakery earns each day depends on the number of pies made, n. This profit can be found using the function $P(n) = 15.5n - 85$. If Janelle and Hector make 20 pies, how much profit will the bakery earn?

3. Last Saturday, Janelle and Hector worked together for 5 hours.
   a. How many pies could they have made during that shift?

   b. How much profit would that have made the bakery?

4. The manager of the bakery is trying to decide how many hours to schedule Janelle and Hector to work based on a desired amount of profit. Complete the table below to help determine the profit based on the number of hours worked.

Hours Worked	Number of Pies	Profit
3		
6.5		
8.25		

5. Write an expression the manager can use for determining the amount of profit earned based on the number of hours that Janelle and Hector work.

6. One day, the manager forgot to write down Janelle and Hector's hours. She does know that the bakery made $411 in profit on that day. Can she figure out how many hours they worked? Explain.

Lesson 4.5 – Composition of Functions

QuickNotes

Check Your Understanding

1. Use $v(x) = 3x^2$ and $w(x) = 4x + 1$, find each of the following.

   a. $v\big(w(3)\big)$

   b. $v\big(w(x)\big)$

   c. $w\big(v(x)\big)$

   d. $w\big(v(7)\big)$