Unit 4, Lesson 6: Increasing and Decreasing

1. For each diagram, decide if \( y \) is an increase or a decrease relative to \( x \). Then determine the percent increase or decrease.

\[ \text{Diagram A} \]

\[ \text{Diagram B} \]

2. Draw diagrams to represent the following situations.

a. The amount of flour that the bakery used this month was a 40% increase relative to last month.

b. The amount of milk that the bakery used this month was a 75% decrease relative to last month.

3. Write each percent increase or decrease as a percentage of the initial amount. The first one is done for you.

a. This year, there was 40% more snow than last year.

\[ \text{The amount of snow this year is 140\% of the amount of snow last year.} \]
b. This year, there were 25% fewer sunny days than last year.

c. Compared to last month, there was a 50% increase in the number of houses sold this month.

d. The runner's time to complete the marathon was a 10% less than the time to complete the last marathon.

4. The graph shows the relationship between the diameter and the circumference of a circle with the point \((1, \pi)\) shown. Find 3 more points that are on the line.

![Graph showing the relationship between diameter and circumference.]

(from Unit 3, Lesson 3)

5. Priya bought \(x\) grams of flour. Clare bought \(\frac{3}{8}\) more than that. Select all equations that represent the relationship between the amount of flour that Priya bought, \(x\), and the amount of flour that Clare bought, \(y\).

A. \(y = \frac{3}{8}x\)  
B. \(y = \frac{5}{8}x\)  
C. \(y = x + \frac{3}{8}x\)  
D. \(y = x - \frac{3}{8}x\)  
E. \(y = \frac{11}{8}x\)
(from Unit 4, Lesson 4)