

Key

What Do You Get When You ...

1 Cross a lightning storm with a cashew farm?

N U T S A N D B O L T S
 \$9.22 10.5% 16.6% 165.2% 7.4% 8.2% \$9.22 21.4% 161.5% 150% 42.9% 11.2% 16.6% 165.2%

2 Cross a weeping willow with a UFO?

A C R Y I N G S A U C E R
 8.2% \$9.15 6.1% 60.9% 75.9% 33.3% \$9.22 27.3% 58.1% 165.2% 8.2% 10.5% 6.1% 117.4% 60.9%



Do each exercise and find your answer in the code (some answers are rounded).
 Each time the answer appears, write the letter of the exercise above it.



Find the percent of increase or decrease.

G. 55 mph to 70 mph

E. 92 lb to 200 lb

A. 61 in 5 ft 1 in. to 66 in 5 ft 6 in.

D. 70 mph to 55 mph

Y. 18.7 kg to 4.5 kg

I. 4.72 billion to 3.15 billion

Solve.

O. Adding cheese to a McDonalds' Quarter Pounder increases the fat content from 21 g to 30 g. What is the percent of change?

U. In 10 years, the average number of hours of TV watched per week by teenagers dropped from 23.9 to 21.4. Find the percent of change.

L. Both Bert and Ernie received an increase in their weekly salaries. Bert's salary increased from \$520 to \$570. Ernie's salary went from \$580 to \$645. Find the percent of increase for each salary. What was the larger of the two percents?

C. Mr. Buckle bought 100 shares of Abacus Corp. stock at \$36.75 per share and sold them at \$34.50 per share. What was his percent loss?

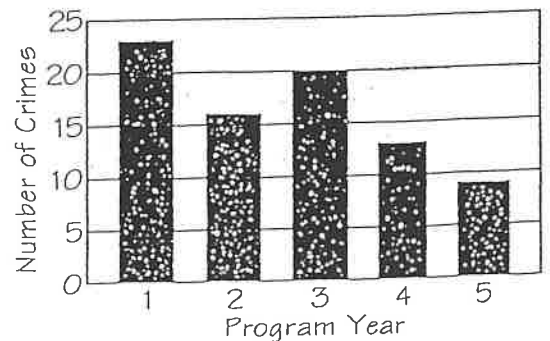
B. In order to get more light into a room, Mr. Lumen replaced a 3 by 4 ft window with a 5 by 6 ft window. What was the percent of increase in the area of glass?

S. World population increased from 2.3 billion in 1900 to 6.1 billion in 2000. What was the percent of increase?

T. During a sale, the price of a pair of running shoes was marked down from \$89.95 to \$75.00. What was the percent discount?

N. Barbara was earning \$8.70 per hour when she got a 6% increase in pay. What was her rate of pay after the increase?

R. The town of Pleasantville conducted a 5-year crime prevention program. Based on the graph, what was the percent of change in the number of crimes from Year 1 to Year 5.



$$\textcircled{G} \text{ P.I.} = \frac{70-55}{55} = \frac{15}{55} = 27.3\%$$

$$\textcircled{E} \text{ P.I.} = \frac{200-92}{92} = \frac{108}{92} = 117.4\%$$

$$\textcircled{A} \text{ P.I.} = \frac{66-61}{61} = \frac{5}{61} = 8.2\%$$

$$\textcircled{O} \text{ P.I.} = \frac{30-21}{21} = \frac{9}{21} = 42.9\%$$

$$\textcircled{U} \text{ P.I.} = \frac{23.9-21.4}{23.9} = \frac{2.5}{23.9} = 10.5\%$$

$$\textcircled{L} \text{ Bert P.I.} = \frac{570-520}{520} = \frac{50}{520} = 9.6\%$$

$$\textcircled{L} \text{ Ernie P.I.} = \frac{645-580}{580} = \frac{65}{580} = 11.2\%$$

$$\textcircled{C} \text{ P.I.} = \frac{36.75-34.50}{36.75} = \frac{2.25}{36.75} = 6.1\%$$

$$\textcircled{B} \begin{cases} \text{Small} = 3 \times 4 = 12 \text{ ft}^2 \\ \text{Large} = 5 \times 6 = 30 \text{ ft}^2 \end{cases}$$

$$\text{P.I.} = \frac{30-12}{12} = \frac{18}{12} = 150\%$$

$$\textcircled{D} \text{ P.I.} = \frac{70-55}{70} = \frac{15}{70} = 21.4\%$$

$$\textcircled{Y} \text{ P.I.} = \frac{18.7-4.5}{18.7} = \frac{14.2}{18.7} = 75.9\%$$

$$\textcircled{I} \text{ P.I.} = \frac{4.72-3.15}{4.72} = \frac{1.57}{4.72} = 33.3\%$$

$$\textcircled{S} \text{ P.I.} = \frac{6.1-2.3}{2.3} = \frac{3.8}{2.3} = 165.2\%$$

$$\textcircled{T} \text{ P.I.} = \frac{89.95-75}{89.95} = \frac{14.95}{89.95} = 16.6\%$$

$$\textcircled{N} \begin{array}{l} \text{rate} + \text{increase} \\ 8.70 + .06(8.70) \\ 8.70 + .52 \\ \$9.22 \end{array}$$

$$\textcircled{R} \text{ P.I.} = \frac{23-9}{23} = \frac{14}{23} = 60.9\%$$

Two Ways to solve:

8.3 Percent of Change Continued

1. Increase 120 by 70%

What is 70% of 120?

$$x = .7 * 120 \\ = 84$$

$$\begin{array}{r} 120 \\ + 84 \\ \hline 204 \end{array}$$

$$\begin{array}{r} 120 + .70(120) \\ 120 + 84 \\ \hline 204 \end{array}$$

2. Increase 224 by 25%

What is 25% of 224?

$$x = .25 * 224 \\ = 56$$

$$\begin{array}{r} 224 \\ + 56 \\ \hline 280 \end{array}$$

$$\begin{array}{r} 224 + .25(224) \\ 224 + 56 \\ \hline 280 \end{array}$$

3. Increase 100 by 94%

What is 94% of 100?

$$x = .94 * 100 \\ = 94$$

$$\begin{array}{r} 100 \\ + 94 \\ \hline 194 \end{array}$$

$$\begin{array}{r} 100 + .94(100) \\ 100 + 94 \\ \hline 194 \end{array}$$

4. Decrease 125 by 36%

What is 36% of 125?

$$x = .36 * 125 \\ = 45$$

$$\begin{array}{r} 125 \\ - 45 \\ \hline 80 \end{array}$$

$$\begin{array}{r} 125 - .36(125) \\ 125 - 45 \\ \hline 80 \end{array}$$

5. Decrease 325 by 28%

What is 28% of 325?

$$x = .28 * 325 \\ = 91$$

$$\begin{array}{r} 325 \\ - 91 \\ \hline 234 \end{array}$$

$$\begin{array}{r} 325 - .28(325) \\ 325 - 91 \\ \hline 234 \end{array}$$

6. Decrease 375 by 16%

What is 16% of 375?

$$x = .16 * 375 \\ = 60$$

$$\begin{array}{r} 375 \\ - 60 \\ \hline 315 \end{array}$$

$$\begin{array}{r} 375 - .16(375) \\ 375 - 60 \\ \hline 315 \end{array}$$