

Percent Increase, Decrease, and Discount

1. At a local community college the cost per unit of instruction is being raised from \$20.00 to \$26.00. What percent increase is this?

2. A person whose salary is \$53,500.00 receives a 4% pay cut. What is the salary decrease and what is the new salary?

3. During a clearance sale, a pair of pants that originally sold for \$54.95 is marked down to \$32.97. What is the percent discount?

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1. At a local community college the cost per unit of instruction is being raised from \$20.00 to \$26.00. What percent increase is this?

$$\left(\frac{\text{The Amount of Increase}}{\text{Initial Tuition}} \right) = \left(\frac{\% \text{ Increase}}{\text{Increase}} \right) \cdot \left(\text{The Initial Tuition} \right)$$

Note: $\$26.00 - \$20.00 = \underline{\$6.00}$ ^{The Amount of Increase!}

Therefore $6 = x \cdot 20$

$$\frac{6}{20} = \frac{20x}{20}$$

$$0.3 = x$$

$$\rightarrow x = 0.3$$

$$\boxed{x = 30\%}$$

30% Increase!

2. A person whose salary is \$53,500.00 receives a 4% pay cut. What is the salary decrease and what is the new salary?

$$\left(\frac{\text{The Amount of Decrease}}{\text{Decrease}} \right) = \left(\frac{\% \text{ Decrease}}{\text{Decrease}} \right) \cdot \left(\text{Initial Salary} \right)$$

$$= (0.04) \cdot (53,500.00)$$

$$= \underline{2,140.00} \text{ The Amount of Decrease!}$$

$$\text{The "New Salary"} = \left(\text{Initial Salary} \right) - \left(\text{The Amount of Decrease} \right)$$

$$= 53,500.00 - 2,140.00$$

$$= \boxed{51,360.00} \text{ New Salary!}$$

3. During a clearance sale, a pair of pants that originally sold for \$54.95 is marked down to \$32.97. What is the percent discount?

$$\left(\begin{array}{c} \text{The Amount of} \\ \text{Discount} \end{array} \right) = \left(\begin{array}{c} \text{Original} \\ \text{Price} \end{array} \right) - \left(\begin{array}{c} \text{Discounted} \\ \text{Price} \end{array} \right)$$

$$= 54.95 - 32.97$$

$$= \underline{21.98} \text{ The Amount of Discount!}$$

$$\left(\begin{array}{c} \text{The Amount of} \\ \text{Discount} \end{array} \right) = \left(\begin{array}{c} \% \\ \text{Discount} \end{array} \right) \left(\begin{array}{c} \text{Original} \\ \text{Price} \end{array} \right)$$

$$21.98 = x \cdot 54.95$$

$$\frac{21.98}{54.95} = \frac{54.95x}{54.95}$$

$$0.4 = x$$

$$40\% = x$$

So the percent discount is

40%!