Chapter 2 Extension Lesson #3: PERCENT OF CHANGE

You purchase a pair of shoes that originally cost \$40 for only \$30.

a) How much did you save?

$$$40 - $30 = [$10]$$

b) Change your answer from part (a) to a percent (money saved/original cost).

$$\frac{10}{40} = .25 = 25\%$$

Finding the percent of change is using the ratio of the amount of change to the original amount.

Example 1

A retailer changed the price of ballpoint pens from \$0.40 to \$0.45 each. What was the percent of change? Is this a percent of increase

or decrease?

r decrease?

change = .05

priginal = .40

.40p =
$$(05)(100)$$

.40p = 5

.40

 $(05)(100)$

A pair of pants that originally cost \$40 are now on sale for \$28. Find the percent of change. Is this a percent of increase or decrease?

Sometimes an increase or decrease is given as a percent, rather than an amount.

Two applications of percent of change are

discounts and sales tax.

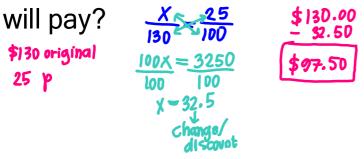
Example 3 decreases increases

Amy bought a television that had an original price of \$600. Because she worked at the store, she received a 15% discount. What was the

discounted price?

\$600 original p=15 600×15 600×15

Luke wants to purchase a new TI-84 graphing calculator at Staples. It costs \$130, and there is a sale for 25% off. What is the price that Luke



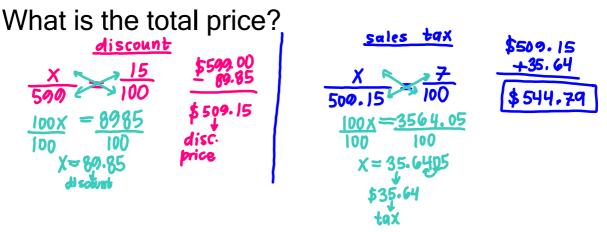
Example 5

Tim bought a pair of running shoes for \$75. There was a 6% sales tax. Find the tax and the

total price that Tim paid.

\$75 original
$$\frac{x}{75} = \frac{6}{100}$$
 \$75.00 \$79.50 = total price \$100 \quad \text{100} \quad \quad \text{100} \quad \quad \text{100} \quad \quad \text{100} \quad \q

Allie is purchasing a new laptop that originally costs \$599. She is getting a 15% student discount and has to pay a 7% sales tax.



Example 7

100% + 25% = 125% 25% markup

Old Navy prices their clothes 25% above the wholesale price of a jacket is \$49, what was the wholesale price?

wholesale
$$= \frac{125}{100}$$
 we pay $= \frac{49}{100}$ $= \frac{125}{100}$ $= \frac{125}{125}$ $= \frac{4900}{125}$ $= \frac{125}{125}$ $= \frac{4900}{125}$ $= \frac{125}{125}$

A store owner marks her goods 18% above the wholesale price. If the retail price of an item is \$28.60, what is the item's wholesale price?

wholesale
$$\frac{\text{markup}}{100}$$
 $\frac{29.60}{\text{X}} = \frac{118}{100}$
 $\frac{118X}{118} = \frac{2860}{118}$
 $\frac{118}{118} = \frac{24.24}{100}$

Example 9

markup 100%+75% A college newspaper increased its sales by 75% when it ran an issue featuring the star quarterback. Before this issue, 10% of the school's 800 students bought the paper. How many students bought the issue featuring the football player?

How many originally bought the paper?

800 · 10 or
$$\frac{X}{800} = \frac{10}{100}$$

80 people

$$\frac{100X}{100} = \frac{14,000}{100}$$

$$X = 140 \text{ students}$$