

6-3D Discount

12-2-14

Glennco Math 7

Discount - the amount by which the regular price is reduced (% off) a.k.a. "on sale"

Sale price - the amount a customer pays for an item (original price minus amount of discount)

Original price - the amount an item costs before mark-up or discount

$$\begin{matrix} \text{sale price} & \left[\frac{\text{is}}{\text{of}} = \frac{p}{100} \right] & \text{\% discount} \\ \text{original price} & \nearrow & \end{matrix}$$

EX. 1 Find the sale price to the nearest cent. (hundredths place)

A) \$20 golf balls; 30% off

Discount (\$ saved)

$$\frac{x}{20} = \frac{30}{100}$$

$$100x = 20(30)$$

$$\frac{100x}{100} = \frac{600}{100}$$

$$x = \$6$$

customer pays: total

$$100\% - 30\% = 70\%$$

$$\frac{x}{20} = \frac{70}{100}$$

$$100x = 20(70)$$

$$\frac{100x}{100} = \frac{1400}{100}$$

$$x = 14$$

Total: \$20

$$\begin{array}{r} 20 \\ - 6 \\ \hline 14 \end{array}$$

\$14

B) \$39 party balloons; 25% discount, 5.75% tax

* Tax must be calculated after discount is applied

Sale price:

Customer pays 100% - 25% = 75%

$$\frac{x}{39} = \frac{75}{100}$$

$$100x = 39(75)$$

$$\frac{100x}{100} = \frac{2925}{100}$$

$$x = \$29.25$$

* discounted price

Price with tax

Customer pays: 100% + 5.75% = 105.75%

$$\frac{x}{29.25} = \frac{105.75}{100}$$

$$100x = 29.25(105.75)$$

$$\frac{100x}{100} = \frac{3093.1875}{100}$$

$$x = 30.931875$$

\$30.93

EX. 2 Find the original price to the nearest cent.

A) Backpack: discount 60%; sale price \$14.24

\$14.24 (final price paid after discount)

Customer paid: 100% - 60% = 40%

$$\frac{14.24}{x} = \frac{40}{100}$$

$$\frac{1424}{40} = \frac{40x}{40}$$

$$35.6 = x$$

\$35.60

B) Rosa buys a cell phone that is on sale for \$79.98. If the price represents a 60% discount, what is the original price?

Customer paid: 100% - 60% = 40%

$$\frac{79.98}{x} = \frac{40}{100}$$

$$\frac{7998}{40} = \frac{40x}{40}$$

$$199.95 = x$$

\$199.95