

## HW: Percent Change Worksheet

**Warm up:**  $\% \text{ change} = \frac{\text{difference}}{\text{original}}$

1) In 2006, there were 142 students at Newtown High School. In 2009, there were 186 students. What was the percent change?

$$\frac{186-142}{142} = \frac{44}{142} = 0.309859155$$

30.99%

2) A grocery store sells boxes of cereal for \$4.59. If sales tax in NJ is 6.625%, what is the total cost of a box of cereal?

- start @ 100%  
↓  
- % of the original

$$\begin{array}{r} \% \\ 100\% \\ + 6.625\% \\ \hline 106.625\% \end{array}$$

of

$$\begin{array}{r} 1.06625(4.59) \\ 4.8940875 \\ \hline \text{\$ } 4.89 \end{array}$$

A DVD player costs \$140 and the sales tax is 5.75%. What is the total cost of the DVD player?

105.75%

of

$1.0575(140)$

$\$148.05$

A cell phone is on sale for 30% off. If the sale price is \$239.89, what is the original price?

$$\begin{array}{r} 100\% \\ - 30\% \\ \hline 70\% \end{array}$$

$$\begin{array}{r} \cancel{0.7}x = 239.89 \\ \hline \cancel{0.7} \quad \quad \quad 0.7 \end{array}$$

$$x = 342.7$$

$$\text{\$ } 342.70$$

A store buys TVs and marks them up 70%. If they are selling a TV for \$540, how much did they pay for it?

170%

$$\frac{1.7x}{1.7} = \frac{540}{1.7}$$

$$x = 317.6470588$$

$$\$ 317.65$$

Cindy bought a computer for \$480 and sold it for \$820. What was the markup?

*bought for \$480, sold for \$820*

$$\frac{820-480}{480} = \frac{340}{480} = 0.708333\bar{3}$$

*70.83%*

Over the last 5 years, enrollment at the state college has dropped by 4.8%. If the current enrollment is 1425, what was the enrollment 5 years ago?

$$\begin{array}{r} 100\% \\ - 4.8\% \\ \hline 95.2\% \end{array}$$

% of

$$\begin{array}{r} 0.952x = 1425 \\ \hline 0.952 \quad 0.952 \\ \hline x = 1496.848739 \\ \hline \text{1497 students} \end{array}$$

A store buys bags of chips for \$1.27 and marks them up by 140% before they sell them. How much do they charge for the bags of chips?

$$\begin{array}{r} 100\% \\ +140\% \\ \hline 240\% \end{array}$$

% of

$$2.4(1.27)$$

$$3.048$$

$$\text{\$ } 3.05$$

- 1) Macy's is having a 60% off sale on everything in the store. If they are selling a pair of shoes for \$34, what was the regular price?
- 2) A hardware store buys shovels for \$4 and sells them for \$11. What is the percent mark up?
- 3) Jason invested in Apple stock when the price was \$422 per share. Since then, it has increased by 78%. What is the current price?
- 4) Mandy owns a seafood market. If all of her products are marked up 230% and she is selling tuna for \$22/lb, how much did she pay for the tuna?



1) Macy's is having a 60% off sale on everything in the store. If they are selling a pair of shoes for \$34, what was the regular price?

$$\begin{array}{r} 0.4x = 34 \\ \hline 0.4 \quad 0.4 \\ \hline x = 85 \\ \text{\$85} \end{array}$$

2) A hardware store buys shovels for \$4 and sells them for \$11. What is the percent mark up?

$$\frac{\text{difference}}{\text{original}} = \frac{11-4}{4} = \frac{7}{4} = 1.75$$

175%

3) Jason invested in Apple stock when the price was \$422 per share. Since then, it has increased by 78%. What is the current price?

178%

$$1.78(422)$$

$$\$751.16$$

4) Mandy owns a seafood market. If all of her products are marked up 230% and she is selling tuna for \$22/lb, how much did she pay for the tuna?

230% ↑  
330%

$$\frac{3.3x}{3.3} = \frac{22}{3.3}$$

$$x = 6.66666\bar{6}$$

\$6.67/lb

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