

key

Name: _____ Block _____

7th Grade Math: Unit 4 Percents Study Guide

Show all work on each question below.

1. AT&T buys cell phones for \$299. They want to make a 36% profit. What should they charge for the retail price?

$$\begin{aligned} 299(36\%) &= 107.64 \\ 299 + 107.64 &= \\ \hline &\$406.64 \end{aligned}$$

2. Amy is making friendship bracelets to sell at school. She is marking up the price 74%. Which expression equals the retail price of an item with an original cost of p dollars?

- a) $0.74p$
b) $p/0.74$

- c) $0.26p$
d) $1.74p$

3. StuCo bought 6 boxes of suckers for \$99.99. The next month, the suckers were on sale of 15%. StuCo bought 4 more boxes. How much did StuCo pay for ALL the boxes.

$$\begin{aligned} 6(99.99) &= 599.94 \\ 15(99.99) &= 14.9985 \\ \hline 599.94 &- 14.9985 = 584.9415 \text{ round to } \$15 \text{ off.} \\ 584.9415 &\times 4 = 2339.766 \text{ per box now} \\ 599.94 + 2339.766 &= \$2939.706 \end{aligned}$$

4. An amount of \$5,500 is invested at a simple interest rate of 3%. What is the total amount after 5 years?

$$\begin{aligned} 5500(3\%)(5) &= \$825 \text{ in interest} \\ 5500 + 825 &= \$6325 \text{ total} \end{aligned}$$

5. Ms. Basnett spent \$25.69 at Madison's before taxes. If the sales tax is 7.5% and a 20% tip is added, what is the total cost of the meal?

$$\begin{aligned} 25.69(7.5\%) &= 1.93 \text{ tax} \\ 25.69 + 1.93 &= 27.62 \text{ total} \\ 27.62(20\%) &= 5.52 \text{ tip} \\ 27.62 + 5.52 &= \$33.14 \text{ total} \end{aligned}$$

Use the table below to answer questions 6 and 7. Round your answers to the nearest tenth.

Participation Totals

Town	January	February
Seacrest	15 inches	8 inches
Hillsboro	5 inches	6 inches
Lake Landing	12 inches	11 inches

6. Find the percent of decrease for Seacrest.

$$\frac{15-8}{15} = \frac{7}{15} = \frac{\text{amt of change}}{\text{original amt}} = 46.7\%$$

7. One town had an increase in participation. Find the percent of increase.

$$\frac{1}{5} = .2 = 20\%$$

Use the table below to answer question 8.

Sales Tax in Cities
Jefferson City 7.5%
Columbia - 6.4%
St. Louis - 8.2%
Kansas City - 7.8%

8. Audra wants to buy a pair of jeans for \$55. How much more will they cost her in St. Louis than in Kansas City?

$$55(8.2\%) = 4.51 \text{ tax}$$

$$55(7.8\%) = 4.29 \text{ KC}$$

$$4.51 - 4.29 = .22 \text{ more}$$

9. Shelby is saving for an iphone 7. She estimates that she will need \$315. However, she forgot about the cost of the case and taxes. The actual price of an iphone 7 is \$599. What is Shelby's percent of error?

$$\text{percent error} = \frac{\text{amt of difference}}{\text{actual amt}} = \frac{284}{599} = .474$$

$$= 47\%$$

10. A toy store marks down every toy by 15% in January. How much does a toy cost during January?

A. 15% of the original price

B. 85% of the original price $(100\% - 15\% = 85\%)$

C. 15% more than the original price

11. If a Hatchimal costs \$24.99 in December. How much does it cost in January at the same toy store?

$$24.99(15\%) = 3.75 \text{ off}$$

$$24.99 - 3.75 = \$21.24$$

12. Trent wants to buy a new pair of Yeezy shoes for \$169.99. There is a 7% sales tax. What is the total cost of his shoes?

$$169.99(7\%) = 11.90$$

$$169.99 + 11.90 = \$181.89$$

13. Abbey is ordering pizza from Dominos. She has a 20% off coupon. If the pizza costs \$15.99 and sales tax is 7.22%, what is her final cost? (Discount taken before taxes)

$$15.99(20\%) = 3.20$$

$$12.79(7.22\%) = .92$$

$$15.99 - 3.20 =$$

$$12.79$$

$$12.79 + .92 =$$

$$\$13.71$$

total