

NAME: Key

Unit 3B Test Review HW

DIRECTIONS: Red each problem carefully. Show all work. Include LABELS with your answers.

1.) A model house is 12cm wide. If it was built with a scale of 3cm : 4m, then how wide is the actual house? Set up & solve a proportion.

$$\frac{3 \text{ cm}}{4 \text{ m}} = \frac{12 \text{ cm}}{X \text{ m}}$$

$$\frac{3x}{3} = \frac{48}{3}$$

$$X = 16 \text{ m}$$

2.) Oak Grove and Salem are 87 miles from each other. How far apart would the cities be on a map that has a scale of 5 in : 29 mi? Set up & solve a proportion.

$$\frac{5 \text{ in}}{29 \text{ mi}} = \frac{X \text{ in}}{87 \text{ mi}}$$

$$\frac{29x}{29} = \frac{435}{29}$$

$$X = 15 \text{ in}$$

3.) The cost of the dinner was \$476. You left an 18% tip. What was the total cost of the meal?

$$\frac{X}{476} = \frac{18\%}{100}$$

$$\frac{100x}{100} = \frac{8568}{100}$$

$$X = \$85.68$$

$$\begin{array}{r} 476 \\ + 85.68 \\ \hline \end{array}$$

$$\$561.68$$

4.) Six Flags is having a sale on admission. The original price is \$62.50. If it is on sale for 45% off, what will be the sales price?

$$\frac{X}{62.50} = \frac{45\%}{100}$$

$$\frac{100x}{100} = \frac{2812.5}{100}$$

$$x = \$28.125 \rightarrow \$28.13$$

$$\begin{array}{r} \$62.50 \\ - 28.13 \\ \hline \end{array}$$

$$\$34.37$$

5.) Sandra is a salesperson at a jewelry store. She earns a 7% commission on each sale. How much does she earn on the sale of a \$5,600 diamond bracelet?

$$\frac{X}{5600} = \frac{7\%}{100}$$

$$\frac{100x}{100} = \frac{39,200}{100}$$

$$x = \$392$$

$$\$392$$

6.) Carmen earns 4.5% interest on an investment of \$6000 each year. How much money will she earn after 6 years?

$$I = Prt$$

$\uparrow \quad \uparrow \quad \uparrow$
 6000 4.5 6
 100

$$I = (6000)(0.045)(6)$$

$$I = \$1620$$

7.) 112 is 76% of what number? Round your answer to the nearest tenth. Set up & solve a proportion

$$\left(\frac{\text{part (is)}}{\text{whole (of)}} = \frac{\%}{100} \right)$$

$$\frac{112}{X} = \frac{76\%}{100}$$

$$\frac{11200}{76} = \frac{76x}{76}$$

$$X = 147.4$$

8.) 79% of 67 is what number? Round your answer to the nearest tenth. Set up & solve an equation.

$$\frac{X}{67} = \frac{79\%}{100}$$

$$\frac{100x}{100} = \frac{5293}{100}$$

$$x = 52.93$$

$$x = 52.9$$

9.) A new television costs \$785.00. 6.5% sales tax was added at the register. If you gave the cashier nine \$100 bills. How much change should you receive?

a.) FIND THE TOTAL COST OF THE TELEVISION WITH TAX.

$$\frac{X}{785} = \frac{6.5\%}{100}$$

$$\frac{100X}{100} = \frac{5102.5}{100} \quad X = \$51.025 \rightarrow \$51.03$$

\$785.00
+ 51.03
\$836.03

b.) CALCULATE THE CHANGE YOU SHOULD RECEIVE. $9 \times \$100 = \900

\$900.00	\$63.97
- 836.03	
63.97	

10.) Carmen went to Target and bought a magazine for \$4.99, a book for \$12.99, and a DVD for \$17.99. What was her total bill including 6.25% sales tax?

a.) FIND THE SUB-TOTAL FOR ALL ITEMS. (ADD)

4.99
12.99
+ 17.99
\$35.97

b.) CALCULATE THE SALES TAX AND ADD TO YOUR TOTAL.

~~$$\frac{X}{35.97} = \frac{6.25}{100}$$~~

$$\frac{100X}{100} = \frac{224.8125}{100} \quad X = \$2.248125 \rightarrow \$2.25$$

\$35.97	+ 2.25
\$38.22	

11.) A ping pong set was originally \$115. You use a coupon for 15% off and the store takes an additional 10% off for being a valued customer. What is the final cost?

a.) FIND THE COST AFTER THE FIRST DISCOUNT.

~~$$\frac{X}{115} = \frac{15}{100}$$~~

$$\frac{100X}{100} = \frac{1725}{100} \quad 115.00 - 17.25$$

$$X = 17.25 \quad \text{border: 1px solid black; border-radius: 50%; padding: 2px; } \$97.75$$

b.) FIND THE COST AFTER THE SECOND DISCOUNT.

~~$$\frac{X}{97.75} = \frac{10}{100}$$~~

$$\frac{100X}{100} = \frac{977.5}{100} \quad 97.75 - 9.78$$

$$X = 9.78 \quad \text{border: 1px solid black; border-radius: 50%; padding: 2px; } \$87.97$$

12.) A sweater is marked \$85. The store has a sale of 25% off everything. Sales tax is 6%. How much does the sweater cost in total?

a.) Calculate the discounted amount of the sweater.

~~$$\frac{X}{85} = \frac{25}{100}$$~~

$$\frac{100X}{100} = \frac{2125}{100} \quad 85.00 - 21.25$$

$$X = 21.25 \quad \text{border: 1px solid black; border-radius: 50%; padding: 2px; } \$63.75$$

b.) Calculate the sales tax on the discounted amount and ADD to your total.

~~$$\frac{X}{63.75} = \frac{6}{100}$$~~

$$\frac{100X}{100} = \frac{382.50}{100} \quad 63.75 + 3.83$$

$$X = 3.83 \quad \text{border: 1px solid black; border-radius: 50%; padding: 2px; } \$67.58$$

13.) Store A buys notebooks for \$1.20 and marks them up 35%. Store B buys notebooks for \$1.16 and marks them up 30%. Calculate how much each store sells the notebooks for and CIRCLE the store that will cost you, the buyer, less? SHOW ALL WORK TO JUSTIFY YOUR ANSWER.

a.) COST AT STORE "A" AFTER MARKUP.

~~$$\frac{X}{1.20} = \frac{35}{100}$$~~

$$\frac{100X}{100} = \frac{42}{100} \quad 1.20 + 0.42$$

$$X = 0.42 \quad \text{border: 1px solid black; border-radius: 50%; padding: 2px; } \$1.62$$

b.) COST AT STORE "B" AFTER MARKUP.

~~$$\frac{X}{1.16} = \frac{30}{100}$$~~

$$\frac{100X}{100} = \frac{34.8}{100} \quad \$1.16 + 0.35$$

$$X = 0.348 \quad \text{border: 1px solid black; border-radius: 50%; padding: 2px; } \$1.51$$

c.) CIRCLE THE BETTER BUY.

B

14.) If a piece of steel 12 feet long weighs 168 pounds, how much will a piece of steel 20 feet long weigh? Set up & solve a proportion.

~~$$\frac{12 \text{ ft}}{168 \text{ lb}} = \frac{20 \text{ ft}}{X \text{ lb}}$$~~

$$\frac{12X}{12} = \frac{3360}{12}$$

X = 280 pounds