

Name Answer Key

Date _____

Period _____

* All problems on this key are set up using proportions

Percent Test Review

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \text{ OR } \frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

1. What number is 65% of 470?

$$\frac{X}{470} = \frac{65}{100}$$

Cross multiply and divide

$$\begin{array}{r} 470 \\ \times 65 \\ \hline 2350 \\ 28200 \\ \hline 30550 \end{array}$$

$$\begin{array}{r} 305.5 \\ 100 \overline{) 30550.0} \\ \underline{-300} \\ 55 \\ \underline{-50} \\ 550 \\ \underline{-500} \\ 500 \\ \underline{-500} \\ 0 \end{array}$$

305.5

2. 56 out of 140 is what percentage?

$$\frac{56}{140} = \frac{X}{100}$$

Cross multiply and divide

$$56 \times 100 = 5600$$

$$\begin{array}{r} 40 \\ 140 \overline{) 5600} \\ \underline{-560} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

X = 40%

3. Cassie wants to buy a pair of shoes for \$26.50 and a shirt for \$9.50. If the sales tax rate is 8.25%, what will be the amount of sales tax on Cassie's purchase?

$$\begin{array}{r} 26.50 \\ + 9.50 \\ \hline 36.00 \end{array}$$

$$\frac{X}{36} = \frac{8.25}{100}$$

Cross multiply & divide

$$\begin{array}{r} 8.25 \\ \times 36 \\ \hline 4950 \\ 24750 \\ \hline 29700 \end{array}$$

$$\begin{array}{r} 2.97 \\ 100 \overline{) 297.00} \\ \underline{-200} \\ 970 \\ \underline{-900} \\ 700 \\ \underline{-700} \\ 0 \end{array}$$

X = \$2.97

4. Mason has a collection of 115 marbles. Out of his collection, 40% of the marbles are red. How many red marbles does Mason have?

Cross multiply & divide

$$\begin{array}{l} \text{red} \rightarrow \\ \text{total} \rightarrow \end{array} \frac{X}{115} = \frac{40}{100}$$

X = 46 red marbles

$$\begin{array}{r} 115 \\ \times 40 \\ \hline 000 \\ 4600 \\ \hline 4600 \end{array}$$

$$\begin{array}{r} 46 \\ 100 \overline{) 4600} \\ \underline{-400} \\ 600 \\ \underline{-600} \\ 0 \end{array}$$

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5. A cruise ship has traveled 3 out of the 25 total hours. What percentage has the cruise ship already traveled?

$$\frac{3}{25} = \frac{x}{100}$$

cross multiply and divide

$$3 \times 100 = 300 \quad \begin{array}{r} 12 \\ 25 \overline{) 300} \\ \underline{-25} \\ 50 \\ \underline{-50} \\ 0 \end{array}$$

$$x = 12\%$$

also

$$\frac{3}{25} = \frac{x}{100} \quad \begin{array}{l} \xrightarrow{\times 4} \\ \xrightarrow{\times 4} \end{array} \quad 3 \times 4 = 12$$

6. Miss Taylor gave an 18% tip to a waitress for serving a meal costing \$12.00. How much was her tip?

$$\frac{x}{12} = \frac{18}{100}$$

cross multiply & divide

$$\begin{array}{r} 18 \\ \times 12 \\ \hline 36 \\ 180 \\ \hline 216 \end{array}$$

$$100 \overline{) 216.00} \quad \begin{array}{r} 2.16 \\ \underline{-200} \\ 160 \\ \underline{-100} \\ 600 \\ \underline{-600} \\ 0 \end{array}$$

$$x = \$2.16$$

7. The movie theater has 250 seats. 225 seats were full for the current showing. What percent of the seats are empty?

Empty seats = total seats - full seats so $250 - 225 = 25$

$$25 \times 100 = 2500$$

$$\begin{array}{l} \text{empty} \rightarrow \frac{25}{250} = \frac{x}{100} \leftarrow \% \text{ empty} \\ \text{total} \rightarrow \end{array}$$

cross multiply and divide

$$250 \overline{) 2500} = 10\%$$

empty seats

8. Michael is shopping for a new stereo. At Electronics-R-Us, the stereo he's looking at is normally \$130.00, but it's currently on sale for 25% off. At Stereo Town, the same stereo is \$118, but Michael has a \$15.00 coupon. From which store should Michael buy the stereo? How much cheaper is the stereo at that store?

Elec-R-US $\frac{x}{130} = \frac{25}{100}$

$$130 \times .25 = 32.5$$

$$\begin{array}{r} 130.00 \\ - 32.50 \\ \hline 97.50 \end{array}$$

\$97.50

cheaper

StereoTown

\$15 off of 118

$$\begin{array}{r} 118.00 \\ - 15.00 \\ \hline 103.00 \end{array} \quad \$103.00$$

$$\begin{array}{r} 103.00 \\ - 97.50 \\ \hline 5.50 \end{array}$$

\$5.50 is difference in prices

* This question has 2 answers

He should buy from Elec-R-US where the stereo is \$5.50 cheaper than StereoTown

9. Carrie eats a meal at her favorite restaurant. Her bill was \$15.95. If she wants to leave the waiter a 20% tip, what is the total amount of money she will pay for her meal and the tip?

$$\frac{X}{15.95} = \frac{20}{100}$$

Cross multiply and divide

$$\begin{array}{r} 15.95 \\ \times 20 \\ \hline 0000 \\ 31900 \\ \hline 319.00 \end{array}$$

$$X = \$3.19$$

$$\begin{array}{r} 3.19 \\ 100 \overline{) 319.00} \\ \underline{-300} \downarrow \\ 190 \\ \underline{-100} \downarrow \\ 900 \\ \underline{-900} \\ 0 \end{array}$$

$$\begin{array}{r} \text{meal} \\ + \text{tip} \\ \hline \text{total} \end{array} \begin{array}{r} 15.95 \\ + 3.19 \\ \hline 19.14 \end{array}$$

\$19.14 for meal and tip

10. Of the 325 cows in a herd, 24% are brown. What is the number of brown cows in the herd?

$$\begin{array}{l} \text{brown} \rightarrow X \\ \text{total} \rightarrow 325 \end{array} = \frac{24}{100} \begin{array}{l} \leftarrow \% \text{ brown} \\ \leftarrow \% \text{ total} \end{array}$$

Cross multiply and divide

$$\begin{array}{r} 325 \\ \times 24 \\ \hline 1300 \\ 6500 \\ \hline 7800 \end{array}$$

$$\begin{array}{r} 78 \\ 100 \overline{) 7800} \\ \underline{-700} \downarrow \\ 800 \\ \underline{-800} \\ 0 \end{array}$$

X = 78 brown cows

11. A total of 20 people made cookies for a bake sale. Each person made a dozen cookies. Mrs. Taylor found that 35% of the cookies were chocolate chip. How many chocolate chip cookies were made for the bake sale? 12 cookies in one dozen

$$20 \times 12 = 240 \text{ total cookies made}$$

$$\begin{array}{l} \text{choc chip} \rightarrow X \\ \text{total} \rightarrow 240 \end{array} = \frac{35}{100} \begin{array}{l} \leftarrow \% \text{ choc chip} \\ \leftarrow \% \text{ total} \end{array}$$

$$\begin{array}{r} 240 \\ \times 35 \\ \hline 1200 \\ 7200 \\ \hline 8400 \end{array}$$

$$\begin{array}{r} 84 \\ 100 \overline{) 8400} \\ \underline{-800} \downarrow \\ 400 \\ \underline{-400} \\ 0 \end{array}$$

X = 84 choc chip Cookies

12. Mr. Jester bought air filters for \$89.50, not including tax. If the tax rate was 6%, what was the total cost of these air filters, including tax?

$$\frac{X}{89.50} = \frac{6}{100}$$

$$\text{tax} = \$5.37$$

$$\text{total cost} = \text{cost} + \text{tax}$$

$$\begin{array}{r} 89.50 \\ \times 6 \\ \hline 537.00 \end{array}$$

$$\begin{array}{r} 5.37 \\ 100 \overline{) 537.00} \\ \underline{500} \downarrow \\ 370 \\ \underline{-300} \downarrow \\ 700 \\ \underline{-700} \\ 0 \end{array}$$

$$\begin{array}{r} 89.50 \\ + 5.37 \\ \hline 94.87 \end{array}$$

$$\text{total cost} =$$

\$94.87