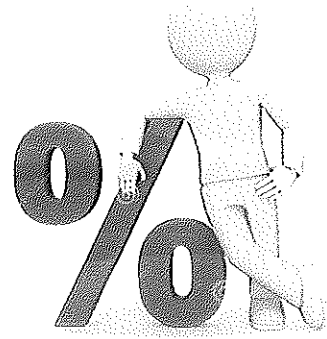


Name _____

Tier B Percents Take Home and Check

You must show your work for each problem. You may use a calculator for all problems, except the conversions.



1) What percent of 60 is 15.68?

$$\begin{aligned} \textcircled{1} \quad \frac{15.68}{60} &= \frac{x}{100} \\ \frac{60x}{60} &= \frac{1568}{60} \quad \boxed{x = 26.13\%} \end{aligned}$$

2) What number is .5 % of 8?

$$\begin{aligned} \textcircled{2} \quad \frac{x}{8} &= \frac{.5}{100} \\ \frac{100x}{100} &= \frac{4}{100} \quad \boxed{x = .04} \end{aligned}$$

3) 12 is what percent of 85?

$$\begin{aligned} \textcircled{3} \quad \frac{12}{85} &= \frac{x}{100} \\ \frac{85x}{85} &= \frac{1200}{85} \\ \boxed{x = 14.12\%} \end{aligned}$$

4) 9 is 45% of what number?

$$\begin{aligned} \textcircled{4} \quad \frac{9}{x} &= \frac{45}{100} \\ \frac{45x}{45} &= \frac{900}{45} \\ \boxed{x = 20} \end{aligned}$$

5) Write $4\frac{1}{8}\%$ as a decimal and fraction in lowest terms.

$$\begin{aligned} \textcircled{5} \quad 4\frac{1}{8}\% &= 4.125\% = \\ .04125 &= \frac{4125}{100000} = \frac{165}{4000} = \\ &\quad \boxed{\frac{33}{800}} \\ &\quad \boxed{1} \end{aligned}$$

6) Sarah and Monique spent \$14, or 35% of their own money on movie tickets. How much money did they have to start with?

$$\begin{aligned} \textcircled{6} \quad \frac{14}{x} &= \frac{35}{100} \\ \frac{35}{35}x &= \frac{1400}{35} \\ x &= \boxed{40} \end{aligned}$$

7) Write $\frac{33}{40}$ as a percent. Round to the nearest hundredth if necessary.

$$\textcircled{7} \quad \frac{33}{40} = .825 = \boxed{82.5\%}$$

8) Write 0.45% as a decimal and as a fraction in simplest form.

$$\begin{aligned} \textcircled{8} \quad 0.45\% &= .0045 = \\ \frac{45}{10000} &= \boxed{\frac{9}{2000}} \end{aligned}$$

9) Write 8.25 as a percent.

$$\textcircled{9} \quad 8.25 = \boxed{825\%}$$

10) Write 35% as a fraction in lowest terms and a decimal.

$$\textcircled{10} \quad 35\% = .35 = \frac{35}{100} = \boxed{\frac{7}{20}}$$

11) Write 56% as a decimal and fraction in lowest terms.

$$\textcircled{11} \quad 56\% = .56 = \frac{56}{100} = \boxed{\frac{14}{25}}$$

12) 95 out of 273 students volunteered. What percent of the students did NOT volunteer?

$$\begin{aligned} \textcircled{12} \quad 273 - 95 &= 178 \text{ did not volunteer} \\ \frac{178}{273} &= .652 = \boxed{65.2\%} \end{aligned}$$

13) Ms. Allon received a \$325 commission, which is a fee based on a percent of her sales. If her sales totaled \$8,125, what is the percent she earns?

$$13) \frac{325}{8125} = \frac{x}{100}$$

$$\frac{8125}{8125} x = \frac{32500}{8125}$$

$$x = 4\%$$

14) In 2004, there were about 35,900 Oragutans remaining in Borneo and Sumatra. In 2008, the population had fallen about 43%. About how many orangutans were left in Borneo and Sumatra in 2008?

$$14) \frac{x}{35900} = \frac{43}{100}$$

$$100x = 1,543,700$$

$$x = 15,437 \text{ orangutans}$$

$$20,463 \text{ left}$$

15) Julia's income in 2013 was \$40,500. In 2014, her income dropped to \$38,250. What was the percent of decrease?

$$15) |38250 - 40500| = 2250$$

$$\frac{2250}{40500} = .0555 =$$

$$5.55\% \downarrow$$

16) A laptop computer is on sale for 15% off the original price of \$1600. When it does not sell, the laptop goes on sale for an additional 20% off. What is the new sale price of the laptop?

$$16) \frac{x}{1600} = \frac{15}{100}$$

$$\frac{100}{100} x = \frac{24000}{100}$$

$$x = 240$$

$$1600 - 240 = 1360$$

$$\frac{x}{1360} = \frac{20}{100}$$

$$100x = 27200$$

$$x = 272$$

$$1360 - 272 =$$

$$1088$$

$$3$$

17) A street vendor buys purses from a manufacturer for \$18 each. The vendor marks up the price by 150%. What is the retail price.

$$17) \frac{x}{18} = \frac{150}{100}$$

$$\frac{100x}{100} = \frac{2700}{100}$$

$$x = \$27$$

18) You are running a carnival and you estimate that 500 students will buy candy apples. When the carnival ends you find that 385 candy apples were sold. What was the percent error?

$$18) 500 - 385 = \frac{115}{385} = .2987$$

$$29.87\%E$$

19) You order a meal at your favorite restaurant for \$23. You leave an 18% tip. The sales tax is 6%. What is the total cost of your meal?

$$19) \begin{array}{l} \text{Tip} = \\ \frac{x}{23} = \frac{18}{100} \\ 100x = 414 \\ x = 4.14 \end{array}$$

$$\begin{array}{r} 23.00 \\ 4.14 \\ 1.38 \\ \hline \$28.52 \\ \text{Total} \end{array}$$

$$\begin{array}{l} \text{Tax} = \\ \frac{x}{23} = \frac{6}{100} \\ 100x = 138 \quad x = 1.38 \end{array}$$

20) In Los Angeles, CA, it rains an average of 35 days per year. About what percent of days in a year does it NOT rain in Los Angeles? Round your answer to the nearest percent.

$$20) 365 - 35 = 330 \text{ days Not rain}$$


$$\frac{330}{365} = .9041 = 90.41\%$$

21) Find the length of time for a loan of \$4500 at 7%, with a simple interest payment of \$1102.50.

$$21) I = PRT$$

$$1102.50 = (4500)(.07)(t)$$

$$\frac{1102.50}{315} = \frac{315t}{315}$$

$$t = 3.5 \text{ years}$$


22) Marty buys a car for \$28,000. He borrows \$20,000 from the bank. The interest rate is 8% and he borrows the money for 5 years. What is the interest and how much must he repay?

$$\begin{aligned}
 22) \quad I &= P R T \\
 &= (20000)(.08)(5) \\
 I &= 8000 \\
 20,000 + 8000 &= \boxed{\$28000}
 \end{aligned}$$

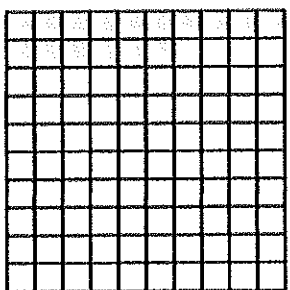
23) This year Veronica sold 72 boxes of Girl Scout cookies. Last year she sold 120 boxes. What is the percent of change in the number of boxes sold?

$$\begin{aligned}
 23) \quad \frac{120 - 72}{120} &= \frac{48}{120} = .4 = \\
 &= \boxed{40\% \downarrow}
 \end{aligned}$$

24) Find the simple interest on a loan of \$2300 at 6.5% for 5 yrs and 6 months.

$$\begin{aligned}
 24) \quad I &= P R T \quad \rightarrow 10 \times 5 + 6 \text{ mos} \\
 &= (2300)(.065)(5.5) \quad t = 5.5 \text{ yrs.} \\
 &= \boxed{\$822.25}
 \end{aligned}$$

25) What percent of the squares are shaded?



$$25) \quad \frac{16}{100} = \boxed{\frac{4}{25}}$$

26) Place the following numbers on the number line below: (Put the letter on the number line):

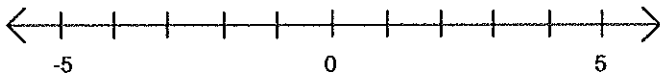
A: $-\frac{3}{4}$

B: 0

C: 0.75

D: -1.8

E: -3.5



26)

A = -0.75

B = 0

C = 0.75

D = -1.8

E = -3.5

