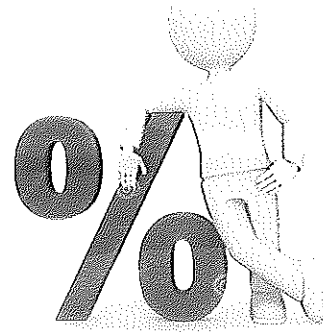Name _____

Tier C Percents Take Home and Check

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

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1) What percent of 60 is 15.68?

1) $\dfrac{15.68}{60} = \dfrac{x}{100}$

$\dfrac{60x}{60} = \dfrac{1568}{60}$ $\boxed{X = 26.13\%}$

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2) What number is .5 % of 8?

2) $\dfrac{x}{8} = \dfrac{.5}{100}$

$100x = 4$

$\boxed{X = .04}$

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3) 12 is what percent of 85?

3) $\dfrac{12}{85} = \dfrac{x}{100}$

$\dfrac{85x}{85} = \dfrac{1200}{85}$

$\boxed{X = 14.12\%}$

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4) 9 is 45% of what number?

4) $\dfrac{9}{x} = \dfrac{45}{100}$

$\dfrac{45x}{45} = \dfrac{900}{45}$

$\boxed{X = 20}$

---

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

5) $4\frac{1}{8}\% = 4.125\% =$

$.04125 = \dfrac{4125}{100000} = \dfrac{165}{4000} =$

$\boxed{\dfrac{33}{800}}$

1

$\boxed{1}$

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

⑥ $\frac{14}{X} = \frac{35}{100}$

$\frac{35X}{35} = \frac{1400}{35}$

$\boxed{X = ^{\$}40}$

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

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

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

⑧ $0.45\% = .0045 =$

$\frac{45}{10000} = \boxed{\frac{9}{2000}}$

---

9) A boat that normally sells for $20,000 is on sale for $17,500. Find the discount rate.

⑨ $\begin{matrix} 20,000 \\ -17,500 \end{matrix}$ ↗ $\frac{2500}{20,000} = \frac{X}{100}$ $\quad 250000 = 20000X$

$\boxed{X = 12.5\%}$

---

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

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

---

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

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

---

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

⑫ $273 - 95 = 178$ did not volunteer

$\frac{178}{273} = .652 = \boxed{65.2\%}$

$\boxed{2}$

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) $\dfrac{325}{8125} = \dfrac{x}{100}$

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

$\boxed{x = 4\%}$

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) $\dfrac{x}{35900} = \dfrac{43}{100}$

$100x = 1,543,700$

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

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

15) $40500 - 38250 = 2250$

$\dfrac{c}{o} \quad \dfrac{2250}{40500} = .0555 =$

$\boxed{5.55\% \downarrow}$

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) $\dfrac{x}{1600} = \dfrac{15}{100}$

$100x = 24000$

$x = 240$

$1600 - 240 = 1360$

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

$100x = 27200$

$x = 272$

$1360 - 272 = \boxed{\$1080}$

$\boxed{3}$

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

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

$\boxed{x = \$27}$

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

$\boxed{29.87 \% E}$

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) Tip =

$\frac{x}{23} = \frac{18}{100}$

$\frac{100x}{100} = \frac{414}{100}$

$x = 4.14$

Tax =

$\frac{x}{23} = \frac{6}{100}$

$100x = 138$

$x = 1.38$

$\begin{array}{r} 23.00 \\ 4.14 \\ + 1.38 \\ \hline \boxed{\$28.52} \end{array}$

Total

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) $365 - 35 = 330$ days Not rain

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

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

21) $I = PRT$

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

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

$\boxed{t = 3.5 \text{ yrs}}$

$\boxed{4}$

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?

22) $I = PRT$

$(20000)(.08)(5)$

$I = 8000$

$20000 + 8000 = \boxed{\$28000}$

23) The selling price of the bicycle you carry in your bicycle shop is $430. The markup rate is 30%. What was the markup amount and the wholesale price (original amount) of the bike?

23) $\dfrac{430}{X} = \dfrac{130}{100}$

$\dfrac{130X}{130} = \dfrac{43000}{130}$

$X = \boxed{\$330.77}$
wholesale price

Markup Amt $= 430 - 330.77 = \boxed{\$99.23}$

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

24) $I = PRT$

$= (2300)(.065)(5.5)$

$= \boxed{\$822.25}$

25) Jack deposited $1400 in his bank account. After 3 years, the account is worth $1,694. Find the simple interest rate the account earned.

25) $1694 - 1400 = \$294$ Interest

$I = PRT$

$294 = (1400)(R)(3)$

$\dfrac{294}{4200} = \dfrac{4200r}{4200}$ $r = .07 = \boxed{7\%}$

⑤

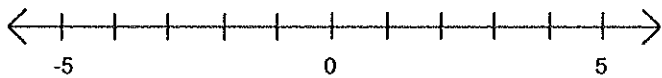26) Place the following numbers on the number line below: (Put the letter on the number line):

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

B: 0

C: 0.75

D: -1.8

E: -3.5

26)

$A = -.75$

$B = 0$

$C = .75$

$D = -1.8$

$E = -3.5$