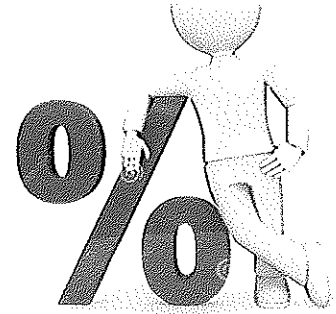


Name _____

Accelerated 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?

$$\begin{aligned} \textcircled{1} \quad \frac{15.68}{60} &= \frac{x}{100} \\ \frac{60}{60}x &= \frac{1568}{60} \quad \boxed{x = 26.1\bar{3}\%} \end{aligned}$$

2) What number is 12.68% of 72?

$$\begin{aligned} \textcircled{2} \quad \frac{x}{72} &= \frac{12.68}{100} \\ \frac{100}{100}x &= \frac{912.96}{100} \quad \boxed{x = 9.13} \end{aligned}$$

3) 9.35 is what percent of 10.5?

$$\begin{aligned} \textcircled{3} \quad \frac{9.35}{10.5} &= \frac{x}{100} \\ \frac{10.5}{10.5}x &= \frac{935}{10.5} \\ \boxed{x = 89.05} \end{aligned}$$

4) What number is .5% of 8?

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

5) Granite, a stone found in New Hampshire and Vermont, is 0.8% water. How many pounds of water are there in 3,000 lbs. of granite?

$$\begin{aligned} \textcircled{5} \quad \frac{x}{3000} &= \frac{.8}{100} \\ \frac{100}{100}x &= \frac{2400}{100} \\ \boxed{x = 24 \text{ lbs}} \end{aligned}$$

6) About 9.4% of the people in Texas live in Houston. If the population of Texas is 20,852,000, what is the population of Houston?

$$6) \frac{x}{20852000} = \frac{9.4}{100}$$

$$100x = 196,008,800$$

$$\boxed{x = 1,960,088 \text{ peo}}$$

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

$$7) \begin{array}{r} 40 \overline{) 33.0} \\ \underline{32 } \\ 100 \\ \underline{-80} \\ 200 \end{array}$$

$$\begin{array}{r} 825 = \\ \boxed{82.5\%} \end{array}$$

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

$$8) .45\% = .0045 =$$

$$\frac{45}{10,000} = \boxed{\frac{9}{2,000}}$$

9) Write 8.25 as a percent.

$$9) \boxed{825\%}$$

10) Write .7% as a fraction in lowest terms and a decimal.

$$10) .7\% = .007 = \boxed{\frac{7}{1000}}$$

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

$$11) \frac{1}{8} = .125$$

$$4.125\% = .04125 =$$

$$\frac{4125}{100,000} = \boxed{\frac{33}{800}}$$

12) One sixth of your flower garden contains petunias, 0.195 of your garden contains marigolds, and 18% contains pansies. Order these numbers from least to greatest.

$$12) \frac{1}{6} \text{ petunias} = .1\bar{6}$$

$$\frac{195}{1000} \text{ marigolds} = 0.195$$

$$\frac{18}{100} \text{ pansies} = .18$$

Least to great:	1) petunias
	2) pansies
	3) marigolds
	2

13) A sporting goods company marks up the wholesale price of a canoe by 75%. The retail price is \$999. What is the wholesale price?

$$13) \quad \frac{999}{x} = \frac{175}{100}$$

$$\frac{175x}{175} = \frac{99900}{175}$$

$x = \$570.86$
 Wholesale price

14) You estimated your vacation costs for your senior spring trip to the Bahamas at \$2450 for a week. You really had a great time, but you spent \$3925. What was your percent error?

$$14) \quad \frac{|\$2450 - \$3925|}{\$3925} = \frac{\$1475}{\$3925} =$$

$$.37579 = \boxed{37.58\% \text{ Error}}$$

15) 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 of the bike?

$$15) \quad \frac{430}{x} = \frac{130}{100}$$

$$\frac{43000}{130} = \frac{130x}{130}$$

$x = \$330.77 = \text{Wholesale price}$

$$\$430 - \$330.77 = \boxed{\$99.23 \text{ Markup amt.}}$$

16) A tennis racket is sold for \$220. If the cost to the store was \$150, find the markup rate.

$$16) \quad \frac{c}{o} = \frac{220 - 150}{150} = \frac{70}{150} =$$

$$.4666 = \boxed{46.67\%}$$

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

$$17) \quad \frac{C}{O} = \frac{20000 - 17500}{20000} = \frac{2500}{20000}$$

$$\frac{2500}{20000} = .125 = \boxed{12.5\%}$$

18) A dress sells for \$165. The discount rate is 10%. Find the discount amount and then find the original price of the dress.

18) $\frac{165}{x} = \frac{90}{100}$ 10% - discount
so
90% - what was paid

$$\frac{90x}{90} = \frac{16500}{90}$$

$$x = 183.33 \text{ original price}$$

$$183.33 - 165 = \boxed{\$18.33 \text{ discount}}$$

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 Tax

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

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

$$x = 4.14$$

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

$$\frac{100x}{100} = \frac{138}{100}$$

$$x = 1.38$$

$$23.00 + 4.14 + 1.38 = \boxed{\$28.52}$$

20) 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?

20)

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

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

$$x = \$240$$

$$1600 - 240 = 1360$$

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

$$\frac{100x}{100} = \frac{27200}{100}$$

$$x = \$272$$

$$1360 - 272 = \boxed{\$1088}$$

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

21) $I = PRT$

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

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

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

22) In how many years would the amount to be repaid on a loan at 10% interest be equal to the principal of the loan?

Choose an amt for the loan

$$22) I = PRT$$

$$1000 = (1000)(.10)(t)$$

$$\frac{1000}{100} = \frac{100t}{100}$$

$$t = 10 \text{ yrs.}$$

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?

$$23) \frac{C}{O} = \frac{120 - 72}{120} = \frac{48}{120}$$

$$\frac{48}{120} = .4 = 40\%$$

24) Jane bought a calculator marked 30% off. She paid \$10.50 for it. What was the original price of the calculator?

$$24) \frac{10.50}{x} = \frac{70}{100}$$

$$\frac{70x}{70} = \frac{1050}{70}$$

$$x = \$15$$

25) The veterinarian weighed Oliver's new puppy, Boaz, on a defective scale. He weighed 36 pounds. However, Boaz weighs exactly 34.5 pounds. What is the percent of error in measurement of the defective scale to the nearest tenth?

$$25) \frac{|36 - 34.5|}{34.5} = \frac{1.5}{34.5} =$$

$$.0435 = 4.35\% \text{ error}$$