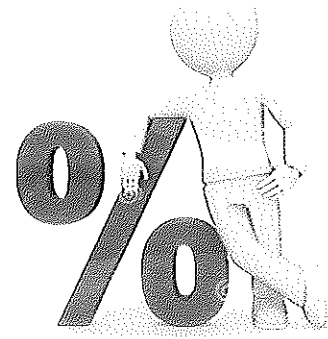Name _____

Tier A 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?

① $\dfrac{15.68}{60} = \dfrac{x}{100}$ $\dfrac{60x}{60} = \dfrac{1568}{60}$

$\boxed{X = 26.13\ \%}$

---

2) What number is 12 % of 72?

② $\dfrac{x}{72} = \dfrac{12}{100}$

$\dfrac{100x}{100} = \dfrac{864}{100}$ $\boxed{X = 8.64}$

---

3) 12 is what percent of 85?

③ $\dfrac{12}{85} = \dfrac{x}{100}$

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

$\boxed{X = 14.11\%}$

---

4) What number is 15% of 76?

④ $\dfrac{x}{76} = \dfrac{15}{100}$ $\boxed{X = 11.40}$

$\dfrac{100x}{100} = \dfrac{1140}{100}$

---

5) A paperback book originally priced at
#12.50 is on sale for $7.50. What percent of
the original cost is the sale price?

⑤ $\dfrac{7.50}{12.50} = \dfrac{x}{100}$

$\dfrac{12.50x}{12.50} = \dfrac{750}{12.50}$

$\boxed{X = 60\%}$

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 $\frac{14}{X} = \frac{35}{100}$

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

$X = \$40$

---

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

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

---

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

⑧ $.45\% = .0045 = \frac{45}{10000} = \boxed{\frac{9}{2000}}$

$\nearrow$ percent $\quad$ $\nearrow$ decimal

---

9) Write 8.25 as a percent.

⑨ $8.25 = \boxed{825\%}$

---

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

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

$\boxed{.35}$

---

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

$\frac{178}{273} = .6520 = \boxed{65.2\%}$

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 $\dfrac{\$325}{\$8125} = .04 = \boxed{4\%}$

14) A total of 243 vehicles visited a car wash today. About 52% of these vehicles were cars. How many cars were washed today?

⑭ $\dfrac{x}{243} = \dfrac{52}{100}$

$\dfrac{100x}{100} = \dfrac{12,636}{100}$

$x = 126.36$

$\boxed{\text{so } 126 \text{ cars were washed}}$

15) In 1970, the price of a loaf of bread was $0.24. Today that price is $3.49. What is the percent of increase in the price of bread?

⑮ $\dfrac{\text{Change}}{\text{Original}} = \dfrac{3.49 - .24}{.24} = \dfrac{3.25}{.24} =$

$\boxed{\cancel{1354\%} \uparrow}$

$1354\% \uparrow$

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

⑯ $\dfrac{\text{Change}}{\text{Original}} = \dfrac{40500 - 38250}{40500} =$

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

$\boxed{5.55\% \downarrow}$

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

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

$\boxed{x = \$27}$

---

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

$\boxed{29.87\%E}$

---

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) $Tip = \dfrac{x}{23} = \dfrac{18}{100}$

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

$x = 4.14$

$Tax = \dfrac{x}{23} = \dfrac{6}{100}$

$100x = 138$

$x = 1.38$

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

↑ Total cost

---

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 it does NOT rain

$\dfrac{330}{365} = \dfrac{x}{100}$

$\dfrac{365x}{365} = \dfrac{33000}{365}$

$\boxed{x = 90.41\%}$

---

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

21) $I = PRT$

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

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

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

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) $I = PRT$
$= (20000)(.08)(5)$
$I = 8000 \rightarrow$ interest

$20000 + 8000 = \$28000$
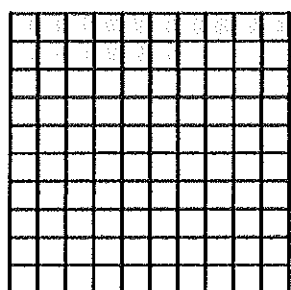↗ amt to repay

---

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) $\dfrac{C}{O}$ $\dfrac{120-72}{120} = \dfrac{48}{120} = .4 =$ $\boxed{40\% \downarrow}$

---

24) Jane bought a calculator marked 30% off. The original price was $15. What is the new price?

24) $\dfrac{X}{15} = \dfrac{30}{100}$

$\dfrac{100X}{100} = \dfrac{450}{100}$

$X = \$4.50$
↗ amt off

$15 - 4.50 =$
$\boxed{\$10.50}$
↗ new price

---

25) What percent of the squares are shaded?

25) $\dfrac{16}{100} = \boxed{16\%}$

5

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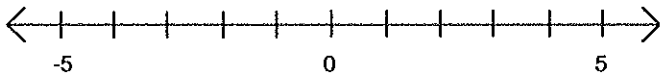line below: (Put the letter on the number
line):

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

B: 0

C: 0.75

D: -1.8

E: -3.5

-5   0   5

27) $A = -\frac{3}{4} = -.75$

$B = 0$

$C = .75$

$D = -1.8$

$E = -3.5$

E D A B C

-5   0   5