Name: Block:

Review for Percents Assessment – Math 6th Grade

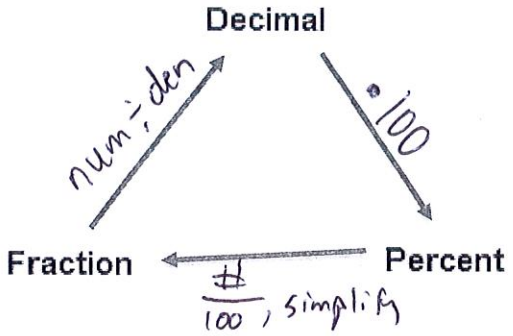
Calculators Permitted on all Questions
For ALL questions, show how you determined your answer.

NOTES

A. What are the three **types** of values you might be given?

Part (portion, "is") , Whole (total, original, "of") , Percent

B. Complete the **Conversion Triangle**



C. Complete the **Equivalent Fractions** for Percents

$$\frac{\text{Part}}{\text{Whole}} = \frac{\%}{100}$$

Now describe how you would use cross-multiplying to evaluate for the missing value? two values diagonal = multiply, then divide by remaining value

EVALUATE BY SETTING UP EQUIVALENT FRACTIONS

6.RP.3c

1. Ms. Berman has 110 students, but kicks out 30% of them. How many students does Ms. Berman have left?

$\frac{33}{110} = \frac{30\%}{100}$ so 110 − 33 = 77 left

2. John answered 31 out of 35 questions correctly on his math test. What percent of the questions did he answer correctly?

$\frac{31}{35} = \frac{88.57\%}{100} \approx 89\%$

3. Michael Jordan's free throw percentage was a 90%. He made 27 shots. How many total shots did he take?

$\frac{27}{30 \text{ shots}} = \frac{90}{100}$

4. Mya bought a hoodie that was on sale for 25% less than the original price. The original price was $40 more than the sale price (***meaning**: it was discounted by $40)*. What was the original price?

$\frac{40}{\$160} = \frac{25}{100}$

5. You want to buy a couch that costs $1,500 and see that it will be on sale for the next week. If the sale requires you to pay only 80% of the purchase price, how much will you have to pay if you buy it on sale?

$\frac{\$1200}{1500} = \frac{80}{100}$

6. You go to dinner and receive the bill for $38.00 and want to tip your waiter 18%.

Part A: How much tip should you leave?

$\frac{6.84}{38} = \frac{18}{100}$

Part B: What is the total cost for the dinner, ~~including tip~~?

$38 + 6.84 = \$44.84$

7. 200 people visited Plumpton Park Zoo in the spring. The number of people visited increased by 35% in the summer. How many people visited the zoo in the summer?

$\frac{70}{200} = \frac{35}{100}$ | $200 + \overset{(inc)}{70} =$ 270 people

8. Ms. Berman brought 50 pieces of candy to share with her students. The students ate 10 pieces of candy.

Part A: What percent of the candy was eaten?

$\frac{10}{50} = \frac{20\%}{100}$

Part B: What percent of the candy is left?

$100 - 20 = 80\%$

9. Mr. Huff brought 80 pieces of candy to share with his students. The students ate 60 pieces of candy.

Part A: What percent of the candy was eaten?

$\frac{60}{80} = \frac{75\%}{100}$

Part B: What percent of the candy is left?

$100 - 75 = 25\%$

10. Kaylynn went shopping and wants to buy clothing that totals $42.65 before tax.

Part A: If the sales tax is 8%, how much will she have to pay in tax?

$\frac{3.412}{42.65} = \frac{8}{100}$

Part B: What is the total that she owes?

$42.65 + 3.412 = 46.062 \approx \$46.06$

Convert to the Equivalent decimal, fraction, or percent form

11. Convert $\frac{11}{20}$ to a decimal and a percent.

Decimal: 0.05 Percent: 5%

12. Convert 30% to a decimal and a fraction:

Decimal: 0.3 Fraction: $\frac{30}{100}$ or $\frac{3}{10}$

13. Convert 0.941 to a fraction and a percent:

Fraction: $\frac{94.1}{100}$ or $\frac{941}{1000}$ Percent: 94.1%

Challenge Questions

1. At a local restaurant, Alyssa purchased a lunch for $19.52. He decided to leave an additional 25% tip. If Alyssa gave the waitress $30.00, how much change did he receive?

A. What is the total bill including tip?

$\frac{4.88}{19.52} = \frac{25}{100}$

Bill + tip = total

19.52 + 4.88 = $24.40

B. How much change did he receive?

30.00 − 24.40 = $5.60

2. Jess wants to buy a car. He can get a 20% discount if he waits for next month's sale. If x represents the original cost of the car, which variable expression can be used to determine the sale price of the car?

A. $x - 0.20$ **B.** $1.20x$ **C.** $x - 20x$ **D.** $0.80x$

20% discount = 80% paid as sale price

80% = 0.80 as a decimal

3. Ms. Berman charges $20 per hour for pet sitting. She raises the fee 40%.

a. What is the fraction that corresponds to the fee increase?

$\frac{8}{20} = \frac{40}{100}$ raises $8 or $\frac{8}{20}$

b. What is Ms. Berman's new hourly wage?

$20 + 8 = \$28$

4. Charlotte is a salesperson that wants to earn $3,500 in December. She receives a base salary of $1,400. She also received a 25% commission of her sales. How much will Sophie need to sell in December to meet her goal?

$3500 - 1400 = \$2100$ she needs to earn in commission

$\frac{2100}{?} = \frac{25}{100}$ = $8400 in sales

Even more challenging...Can you do it?

5. In December, the price of a computer increased from $800 to $950. Then, in January, the price of the same computer decreased from $950 to $800. Haley stated that the percent of increase in December was equal to the percent of decrease in January? Is she correct? Justify your response using mathematics. ***HINT: the WHOLE value is the starting number, the PART is how much it increased or decreased***

$950 - 800 =$ inc/dec of $150

Dec

$\frac{150}{800} = \frac{18.75}{100} \approx 19\%$

Jan

$\frac{150}{950} = \frac{15.78}{100} \approx 16\%$

not the same