

Proportional Reasoning  
Quiz 3 (Q2) - Quiz B

Directions:

- 1) YOU MAY USE A CALCULATOR.
- 2) THIS MUST BE DONE IN PENCIL.
- 3) EACH PROBLEM IS LABELED WORTH 2 POINTS, UNLESS NOTED OTHERWISE.

Estimate Percents of Number.

*Percent of a Number is a number!*

- 1.) 124% of 41

$$\frac{120}{100} \text{ of } 40$$

$$1.2 \times 40 = 48$$

- 2.) 26.5% of 123

$$\frac{30\% \text{ of } 120}{25\% \text{ of } 120}$$

$$\frac{1}{4} \times 120 = 30$$

- 3.) Estimate 34% of 121

$$30\% \text{ of } 120$$

$$\frac{3}{10} \times 120 = 36$$

Estimate each Percent.

- 4.) 8 out of 13

$$\frac{8}{13} = \frac{3}{5} \approx 0.6 = 60\%$$

- 5.) 150,078 out of 299,000

$$\frac{150,000}{300,000} = \frac{15}{30} = \frac{1}{2} = 50\%$$

Find the Percent of Change. Round to the nearest tenth. State whether the percent of change is decrease or increase.

$$\rightarrow 0.53 \approx 0.5 \text{ } | \underline{50\% \text{ increase}} |$$

- 6.) From \$98 to \$150

$$\text{New} = 150$$

$$\text{OLD} = 98$$

$$\frac{\text{New} - \text{OLD}}{\text{OLD}} = \frac{150 - 98}{98} = 0.53 \quad 53\% \text{ increase}$$

- 7.) From 15 songs to 105 songs

$$\text{New} = 105$$

$$\text{OLD} = 15$$

$$\frac{105 - 15}{15} = 600\% \text{ increase}$$

8.) VIDEOS A video store is selling previously owned DVDs for 40% off the regular price of \$15. What is the sale price of the DVDs? (4pts)

$$0.4 \times 15 = 6$$

$$15 - 6 = 9$$

$$\boxed{\$9}$$

Find the selling price of each item.

9.) Dress: \$16.25; 35% markup

$$35\% = 0.35$$

$$16.25 \times 0.35 = 5.69$$

$$\boxed{\$21.93}$$

10.) Speakers: \$42; 27% markup

$$27\% = 0.27$$

$$42 \times 0.27 = 11.34$$

$$\boxed{\$53.34}$$

11.) What is the markup rate on \$230 game system that sells for \$75?

$$\text{New} = 230$$

$$\text{Old} = 75$$

$$\frac{\text{New} - \text{Old}}{\text{Old}} = \frac{230 - 75}{75} = \frac{155}{75} = 2.0666 = 2.0\bar{6}$$

regularly

$$\approx \boxed{207\%}$$

the mark up rate is %

12.) What is the discount rate on a \$80 dress that regularly sells for \$120?

$$\text{New} = 80$$

$$\text{Old} = 120$$

$$\frac{\text{New} - \text{Old}}{\text{Old}} = \frac{80 - 120}{120} = -\frac{40}{120} = -0.3333 = -0.\bar{3}$$

$$= -\frac{40}{120} = -0.3333 = -0.\bar{3}$$

$$\boxed{33\%}$$

THE DISCOUNT RATE IS %

Find the simple interest rate to the nearest cent.

13.) \$250 at 6.5% for 3 years

$$P = 250$$

$$R = 6.5\% = 0.065$$

$$T = 3$$

$$\boxed{I = 48.75}$$

→ 48 dol. and 75 cents

14.) \$5200 at 13.5% for 15 months

$$P = 5200$$

$$R = 13.5\% = 0.135$$

$$T = 15 \text{ months} = \frac{15}{12} = \frac{5}{4} = 1.25 \text{ years}$$

$$\boxed{877.5}$$

877 dollars and 50 cents

16.) INSTRUMENTS Lane borrowed \$1500 for a new drum set. She will be paying 7.5% in simple interest over the next 2 years. What is the total amount of interest she will be paying on the loan? (4 pts)

$$P = 1500$$

$$R = 7.5\% = 0.075$$

$$T = 2$$

$$I = 1500 \times 0.075 \times 2$$

$$I = 225$$

17.) SAVINGS Luke puts \$4800 in a savings account. He earns \$96 each month for the next 60 months. Find the simple interest rate for his savings account. (4 pts)

$$96 \times 60 = 5760$$

$$60 \text{ months} = 5 \text{ years}$$

P - DOLLARS  
R - % - must be turned in  
I - DOLLARS Decimals

$$I = 5760$$

$$P = 4800$$

$$5760 = 4800 \times R \times 5$$

$$R = 0.24 = 24\%$$

T - YEARS

wow  
extra  
credit