1A each

Name Key Your score 17p15 Percent _____%

Pre-test Possible points 17 pts Grade _____

Unit 3 part II Percents (MELOTT)

Show work on ***ALL* problems**

1. Three students conduct the same survey about the number of hours people sleep at night. The results of the number of people who sleep 8 hours a nights are shown below. In which person's survey did the most people sleep 8 hours?

↑ est #

a) Susan reported that 18 of the 48 people she surveyed get 8 hours sleep a night

18/48 = → 0.375

b) Kenneth reported that 36% of the people he surveyed get 8 hours sleep a night

1pt .360

c) Jamal reported that 0.365 of the people he surveyed get 8 hours sleep a night

.365

2. If a woman making $25 an hour gets a 10% raise, what is her new salary?

$25 * 0.1 = 2.50$ raise

$25 + 2.50 =$

$= 27.50$ ↑ new

1pt

option I, II or III but can only

Option I

$\frac{10}{100} = \frac{X}{25}$

$\frac{100X}{100} = \frac{250}{100}$

$X = 2.5$

$25 + 2.7 = 27.50$

Option 2

Option III $\frac{110}{100} = \frac{X}{25}$

$\frac{100X}{100} = \frac{2750}{100}$

$X = 27.50$

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3. Which of the following is not equivalent to the final price AFTER a 105% increase of $78?

a) 78 + 78 + 78(.05)

b) 2.05(78)

c) 1.05(78)

d) 2(78) + (.05)78

4. Which of the following is *not* equivalent to the final price AFTER a 60% discount on an item that costs 45 dollars?

a) 45(1-.6)

b) .6(45)

c) 45(.4)

d) 45 - .6(45)

5. Games Unlimited buys video games for $10. The store increases their purchase price by 300%? What is the sales price of the video game?

$100+300=400$

$\frac{X}{10} = \frac{400}{100}$

$\frac{100X}{100} = \frac{4000}{100}$

$X = \$40$ new price

6. Gas prices are projected to increase by 124% by April 2015. A gallon of gas currently costs $3.80. What is the projected cost of a gallon of gas for April 2015?

$100+124=224$

$\frac{X}{3.80} = \frac{224}{100}$

$\frac{100X}{100} = \frac{851.2}{100}$

$X = 8.51$ new price

7. A car dealer pays $12,987 for a new Ford Ranger truck but marks it up 18%. How much does the car cost a customer? How much profit does the car dealer make?

① $100+18=118$

$\frac{X}{12987} = \frac{118}{100}$

$\frac{100X}{100} = \frac{1532466}{100}$

$X = 15,324.66$ customer

② $15,324.66 - 12,987 =$

$= 2337.66$ profit

8. A sweater is marked down 33% off the original price. The original price was $37.50. What is the sale price of the sweater before sales tax?

① $100-33=67$

② $\frac{X}{37.50} = \frac{67}{100}$

$\frac{100X}{100} = \frac{2513}{100}$

$X = 25.13$ sale price

9. A shirt is on sale for 40% off. The sale price is $12. What was the original price? What was the amount of the discount?

① $100 - 40 = 60$

② $\frac{12}{X} = \frac{60}{100}$

$\frac{60X}{60} = \frac{1200}{60}$

$X = 20$ original

③ $20 - 12 = 8$ discount

10. After eating at a restaurant, Mr. Jackson's bill before tax is $52.50 The sales tax rate is 8%. Mr. Jackson decides to leave a 20% tip for the waiter based on the pre-tax amount. How much is the tip Mr. Jackson leaves for the waiter? How much will the total bill be, including tax and tip?

$52.50 * .2 = 10.50$ tip

$52.50 * .08 = 4.20$ tax

Total: $52.50 + 10.50 + 4.20 =$

$= 67.20$ total

11. A salesperson set a goal to earn $2,000 in May. She receives a base salary of $500 per month as well as a 12% commission for all sales in that month. How much merchandise will she have to sell to meet her goal?

$2000 - 500 = 1500$

$\frac{1500}{X} = \frac{12}{100}$

$\frac{12X}{12} = \frac{150000}{12}$

$X = 12,500$

12. A sales person receives a 12% commission of $112.20 on a sale of a vacuum cleaner. What is the total cost the customer paid for the vacuum cleaner?

$\frac{X}{112.20} = \frac{12}{100}$

$\frac{100X}{100} = \frac{1346.40}{100}$

$X = 13.46$ Commission

$112.20 + 13.46 = 125.60$

13. Stephanie paid $9.18 for a pair of earrings. This amount includes a tax of 8%. What was the cost of the item before tax?

① $100 + 8 = 108$

② $\frac{9.18}{X} = \frac{108}{100}$

$\frac{108X}{108} = \frac{918}{108}$

$X = 8.50$

original

14. Jared invested $1,200 for 28 months. At the end of the 28 months, his investment was worth $1,284. What was the rate of simple interest that he received?

$I = P * R * T$

$I = 1284 - 1200 =$

$= 84$

$84 = 1200 * R * \frac{28}{12}$

$\frac{84}{2800} = \frac{2800 \cdot R}{2800}$

$0.03 = R$

$R = 3\%$

15. Sarah borrowed $15,000 from the bank to buy a car. She borrowed the money for 6 years at a rate of 5.5%. What is the total amount that Sarah has to pay the bank back?

$I = P \cdot R \cdot T$

$I = 15{,}000 * 0.055 * 6$

$I = 4950$

$\text{Total} = I + P =$

$= 15000 + 4950$

$= 19{,}950$

16. Jamal needs to purchase a countertop for his kitchen. Jamal measured the countertop as 5 ft. The actual measurement is 4.5 ft. What is Jamal's percent error?

$5 - 4.5 = 0.5 \text{ ft}$

$\frac{0.5}{4.5} = \frac{x}{100}$

$\frac{4.5x}{4.5} = \frac{50}{4.5}$

$x = 11.1\%$

17. At a track meet, you time a friend running 100 m in 11.00 seconds. The officials time her at 10.67 seconds. What is your percent error?

$11 - 10.67 = 0.33$ amt. change

$\frac{0.33}{10.67} = \frac{x}{100}$

$\frac{10.67x}{10.67} = \frac{33}{10.67}$

$x = 3.09\% \rightarrow 3.1\%$