

3-12-19

Aim: SWBAT review.

HW: Test Tomorrow

Do Now: Check hw

1. Judy is saving money for a trip that will cost \$1000. She has had \$800 in the bank for a year at $7\frac{1}{2}\%$ annual interest. Does she have enough money for the trip? If not, how much more does she need?

$$I = Prt$$

$$I = (800)(0.075)(1)$$

$$I = \$60$$

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

$$T = 800 + 60$$

$$T = \$860$$

No, she needs \$140 more.

$$\$1000 - \$860 = \$140$$

2. Sam wants to put a new roof on his house. He plans to borrow the \$15,000 it will cost. The bank will charge $18\frac{1}{2}\%$ annual interest for two years. How much will Sam have to pay back?

$$I = Prt$$

$$I = (15000)(0.185)(2)$$

$$I = 5550$$

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

$$T = 15000 + 5550$$

$$T = 20550$$

3. Marvin is borrowing \$600 from his father for $2\frac{1}{2}$ years. His father is charging him 5% annual interest. What will Marvin owe his father?

$$I = Prt$$

$$I = (600)(0.05)(2.5)$$

$$I = \$75$$

$$\text{Total} = 600 + 75$$

$$T = \$675$$

4. Mr. Alexander borrows \$14,500 from a bank at $17\frac{1}{2}\%$ annual interest for $3\frac{1}{2}$ years. Is \$8,500 enough to pay back the loan?

$$I = Prt$$

$$I = (14500)(0.175)(3.5)$$

$$I = \$8881.25$$

No, that's not enough.

5. Sally is saving money for a new car. She has \$6450 in a savings account for $1\frac{1}{2}$ years, earning 0.75% annual interest. Does she have enough to purchase a \$7295 car?

$$I = Prt$$

$$I = (6450)(0.0075)(1.5)$$

$$I = 72.5625$$

$$I \approx \$72.56$$

$$\text{Total} = \$6450 + \$72.56$$

$$T = \$6522.56$$

No, she needs a lot more money

6. Phyllis is borrowing \$1200 for college tuition from her grandmother at 6% annual interest for 2 years. If Phyllis wants to repay the loan in 12 equal payments, how much would each payment be?

$$I = Prt$$

$$I = (1200)(0.06)(2)$$

$$I = \$144$$

$$\text{Total} = \$1200 + \$144 \quad \$1344 \div 12 = \$112$$

$$\text{Total} = \$1344$$

Phyllis will pay \$112 a month.

7. Mildred borrows \$2500 from the bank at $16\frac{1}{2}\%$ annual interest. The loan is due in $2\frac{1}{2}$ years. Is \$3500 enough to repay the loan when it is due?

$$I = Prt$$

$$I = (2500)(0.165)(2.5)$$

$$I = \$1031.25$$

$$\text{Total} = \$2500 + \$1031.25$$

$$\text{Total} = \$3531.25$$

No, it's not enough.

8. Sol borrowed \$1100 to repair his car. He has a loan at $15\frac{1}{2}\%$ annual interest for $1\frac{1}{2}$ years. What will he owe when the loan is due?

$$I = Prt$$

$$I = (1100)(0.155)(1.5)$$

$$I = \$255.75$$

$$\text{Total} = \$1100 + \$255.75$$

$$\text{Total} = \$1355.75$$

Sol owes \$1355.75.

Review

1. Andrew purchased a barbeque. He saved \$39 off the regular price of \$195. What percent of the regular price did he save?

$$\frac{39}{195} = \frac{x}{100}$$

2. Jenny earns 30% commission on all the items she sells. If she sells \$870 worth of items, how much commission did she earn?

$$\frac{x}{870} = \frac{30}{100}$$

- * 3. The cost, including a 6.75% sales tax, of a home theater system is \$2668.75. What is the original cost of the home theater system?

$$100\% + 6.75\% = 106.75\%$$

$$\frac{2668.75}{x} = \frac{106.75}{100}$$

4. A car salesman earns 17% commission on all sales. If he sold a car and earned \$3327.75 in commission, what was the price of the car that he sold?

$$\frac{3327.75}{x} = \frac{17}{100}$$

5. A new puppy weighs 8 pounds. At one year old, her weight is 60 pounds. What is the percent increase in the puppy's weight?

$$60 - 8 = 52 \text{ increase}$$

$$\frac{52}{8} = \frac{x}{100}$$

↑
original

Review

1. Andrew purchased a barbeque. He saved \$39 off the regular price of \$195. What percent of the regular price did he save?

$$\frac{39}{195} = \frac{x}{100}$$

$$\frac{195x}{195} = \frac{3900}{195}$$

$$x = 20$$

He saved 20%.

2. Jenny earns 30% commission on all the items she sells. If she sells \$870 worth of items, how much commission did she earn?

$$\frac{x}{870} = \frac{30}{100}$$

$$\frac{100x}{100} = \frac{26100}{100}$$

$$x = 261$$

She earned \$261.

3. The cost, including a 6.75% sales tax, of a home theater system is \$2668.75. What is the original cost of the home theater system?

$$20\% + 6.75\% = 106.75\%$$

$$\frac{2668.75}{x} = \frac{106.75}{100}$$

$$\frac{106.75x}{106.75} = \frac{266875}{106.75}$$

$$x = 2500$$

The original cost was \$2500.

4. A car salesman earns 17% commission on all sales. If he sold a car and earned \$3327.75 in commission, what was the price of the car that he sold?

$$\frac{3327.75}{x} = \frac{17}{100}$$

$$\frac{17x}{17} = \frac{332775}{17}$$

$$x = 19575$$

The car was sold for \$19,575.

5. A new puppy weighs 8 pounds. At one year old, her weight is 60 pounds. What is the percent increase in the puppy's weight?

$$60 - 8 = 52$$

$$\frac{52}{8} = \frac{x}{100}$$

original

$$\frac{8x}{8} = \frac{5200}{8}$$

$$x = 650$$

The percent increase is 650%.

Review

6. Chris estimates that it will take him 30 minutes to complete his homework. But, it only takes him 25 minutes to complete his homework. What is the percent error in his estimate?

$$30 - 25 = 5 \text{ amt. of error}$$

$$\frac{5}{25} = \frac{x}{100}$$

↑
actual

7. The number of students in the math club increased from 20 to 26? What was the percent of increase?

$$26 - 20 = 6 \text{ increase}$$

$$\frac{6}{20} = \frac{x}{100}$$

↑
original

8. The planners of a carnival estimate that they will sell 500 hotdogs. They only sell 400. What is the percent error in their estimate?

$$500 - 400 = 100$$

$$\frac{100}{400} = \frac{x}{100}$$

↑
actual

9. A television regularly sells for \$699. There is a 10% discount and an 8.5% sales tax based on the sale price. What is the final price of the television?

$$\frac{x}{699} = \frac{10}{100}$$

$$\frac{y}{629.10} = \frac{8.5}{100}$$

$$x = 69.90 \text{ amt. of discount}$$

$$\frac{100y}{100} = \frac{5347.35}{100}$$

$$y = 53.4735$$

$$\$699 - \$69.90 = \$629.10$$

$$\$629.10 + \$53.4735$$

$$\$682.5735$$

$$\$682.57$$

Review

6. Chris estimates that it will take him 30 minutes to complete his homework. But, it only takes him 25 minutes to complete his homework. What is the percent error in his estimate?

$$30 - 25 = 5$$

$$\frac{5}{25} = \frac{x}{100}$$

↑
actual

$$\frac{20x = 500}{25 \quad 25}$$

$$x = 20$$

His error was 20%

7. The number of students in the math club increased from 20 to 26? What was the percent of increase?

$$26 - 20 = 6$$

$$\frac{6}{20} = \frac{x}{100}$$

↑
original

$$\frac{30x = 600}{20 \quad 20}$$

$$x = 30$$

The number of math club students increased by 30%.

8. The planners of a carnival estimate that they will sell 500 hotdogs. They only sell 400. What is the percent error in their estimate?

$$500 - 400 = 100$$

$$\frac{100}{400} = \frac{x}{100}$$

↑
actual

$$\frac{400x = 10000}{400 \quad 400}$$

$$x = 25$$

The estimate was 25% off.

9. A television regularly sells for \$699. There is a 10% discount and an 8.5% sales tax based on the sale price. What is the final price of the television?

$$\frac{x}{699} = \frac{10}{100}$$

$$\frac{100x = 6990}{100 \quad 100}$$

$$x = \$69.90 \leftarrow \text{amt. of discount}$$

$$\$699 - \$69.90 = \$629.10$$

$$\frac{y}{629.10} = \frac{8.5}{100}$$

$$\frac{100y = 5347.35}{100 \quad 100}$$

$$y = 53.4735 \leftarrow \text{tax}$$

$$\$629.10 + \$53.4735 = \$682.57$$

The final price was \$682.57.