Warm up back of 14

Find the total cost of a sweater that is priced $38, on sale for 20% off, with 4% sales tax

Discount $38 \times \frac{20}{100} = 7.60$

Sale price. $38 - 7.60 = 30.40$

Tax $30.40 \times \frac{4}{100} = 1.22$ (1.216 ≈ 1.22)

Final $= 30.40 + 1.22$

$31.62$

| Name: | Class: |
|---|---|
| Topic: | Date: |

| Main Ideas/Questions | Notes |
|---|---|
| **PERCENT OF CHANGE** | A **percent of change** is the ratio of the amount of change to the original amount:<br>Percent = new - original / original<br>*no over o* |
| **TYPES** *of Percent Change* | » When the original amount goes up, it's called a percent increase<br>» When the original amount goes down, it's called a percent decrease |
| **EXAMPLE** | Beth bought a $75 pair of jeans for $60. Find the percent of change and classify as a percent increase or decrease.<br>% = n-o / o  60-75 / 75  .2 = 20%  Decrease |
| **YOU TRY!** | **Directions:** Find the percent of change and classify as a percent increase or decrease. Round to the nearest tenth of a percent when necessary. |
| | **1.** John went from weighing 140 pounds to 155 pounds.<br>% = n-o / o  155-140 / 140 = 11%  Increase |
| | **2.** The computer that sold for $815 last month sold for $925 this month.<br>13.5%  I  925-815 / 815 |
| | **3.** Last year, the debate team had 25 members. This year, the club has 18 members.<br>28% D |
| | **4.** Karen's old car got 25 miles per gallon. Her new car gets 31 miles per gallon.<br>24% I |

| | | |
|---|---|---|
| | **5.** Ian worked 25 hours at the grocery store last week and 36 hours this week.<br>$\% = \frac{n-o}{o}$ $\frac{36-25}{25}$ | **6.** The football team scored 128 total points last season. This year, they scored 144 total points. |
| | **7.** The store employee changed an $8.00 price sticker to $2.50 and placed it on the sale shelf. | **8.** The police officer gave a woman a ticket for driving 75 mph in a 55 mph speed zone. |
| | **9.** The total rainfall was 14.5 inches in 2014 and 8.90 inches in 2015. | **10.** Rob took 75 minutes to finish his 6th grade math final exam and 1 hour and 40 minutes to finish his 7th grade math final exam. |
| | **11.** In Mr. Wahlen's math class, Erin earned an 88 in the 1st quarter and a 94 in the 2nd quarter.<br>.068<br>6.8% | **12.** The enrollment at a university increased from 14,000 to 16,000 students. |
| | **13.** The florist sold 800 roses last year on Valentine's Day. This year, the sold 638 roses. | **14.** The golf club paid $40 for a certain golf club, then sold it for $75. |

| Topic: | Date: |
|---|---|

| Main Ideas/Questions | Notes |
|---|---|
| **Simple Interest** | ➢ **Interest** is the amount of money paid or earned for the use of money by a bank or other financial institution.<br>• For **borrowing money** (loans, credits cards, etc.), interest is **paid.**<br>• For **saving money** (savings accounts, investing, etc.), interest is **earned.** |
| **Simple Interest Formula** | To solve problems involving simple interest, use the formula: $I = PRT$<br>$I$ = Interest<br>$p$ = Principle<br>$r$ = Rate (%)<br>$t$ = Time |
| **Finding Interest** | **Directions:** Find the **simple interest** to the nearest cent. |

1. $675 at 4% for 3 years

$I = prt$
$= 675 \times .04 \times 3$
$I = 81$

2. $900 at 8% for 5 years

3. $225 at 5.4% for 2 years

4. $1,295 at 9.25% for 4 years

5. $14,095 at 3.8% for $5\frac{1}{2}$ years

6. $2,200 at 7.5% for $3\frac{1}{4}$ years.

7. $460 at 2.99% for 6 months

$I = prt$
$460 \times .0299 \times .5$
$I = 6.88$

2,99%

8. $1,849 at 7% for 18 months

$I = PRT$

If $900 of interest is owed on a $5000 loan to be paid in 6 years, what is the interest rate?

$I = P r t$

$900 = 5000 \times r \times 6$

$\frac{900}{30,000} = \frac{30,000r}{30,000}$

$.03 = r$

$= 3\%$

I = PRT

In how many years will you have a total of $3200 in your bank account if you deposited $3000 and the interest rate is 5%?

$I = prt$

$200 = 3000 \times .05 \times t$

$\frac{200}{150} = \frac{150 \times t}{150}$

1.3 years

## Applications

**Directions:** Assume each problem refers to simple interest. Read carefully and solve. Round to the nearest tenth or cent when necessary.

**9.** Marsha borrowed $8,975 at a 4.9% interest rate to purchase a used car. How much total will she have paid after 5 years?

$I = 8975 \times .049 \times 5$

$I = 2198.88$

Total $= 11,173.88$

**10.** Carolyn borrowed $38,500 to pay for college. If the interest rate is 3.2%, how much total will she have paid after 10 years?

**11.** Victor used a 36-month line of credit for $15,000 to remodel his kitchen. If the interest rate is 2.5%, how much will he pay in interest?

**12.** Lance placed $5,200 in an investment account with a 6.5% interest rate. After how many years will he double his initial investment?

**14.** Shane took out a 5.5-year loan from the bank in order to purchase a $12,000 motorcycle. At the end of the loan, he had paid $3267 in interest. Find the interest rate.

**14.** Gabby used a 2-year loan to purchase a $1,650 television. If she ended up paying $1,914 in total, find the interest rate.

**16.** Elaina started a savings account with $3,000. The account earned $10 each month in interest over a 5-year period. Find the interest rate.

**16.** Alex bought a new boat with a 15-year loan at a 2.4% interest rate. If he ended up paying $8456.40 in interest, what was the purchase price of the boat?

homework - finish incomplete classwork problems