

Name: _____

Date: _____

Aim: How can we rewrite percent expressions?

Mary says that 20% off of the price of a coat is the same as paying 80% of the price. Do you agree or disagree? Explain.

Use an example: Let's say the coat is \$140.

To find new amount after a percent decrease or percent increase:

new amount = (_____) • the original amount

new amount = (_____) • the original amount

Example: 30% discount on x dollars

Example: 8% tax on x dollars

1. If a computer costs c dollars, and the computer is on sale for 60% off. Write an algebraic expression to represent the sale price of the coat.
2. A skateboard is x dollars. It is marked up 34%. Write an algebraic expression to represent the sale price of the skateboard.
3. Leo bought a used car for x dollars. One year later, the value of the car is represented by $0.88x$. By what percent did the car change over the year? Was it an increase or a decrease?

4. The population of a city, p , is expected to increase 7.5% next year. Write an expression to represent the expected population next year.
5. The expression $1.08(0.60p)$ represents the total cost Naomi paid for a jacket that was originally priced p dollars. Based on the expression, write a situation that the expression could represent.
6. State whether each algebraic expression is a % increase or % decrease and by how much.
- | | | increase/decrease | % |
|----|----------------------|--------------------------|----------|
| a. | $0.75x$ | _____ | _____ |
| b. | $1.25x$ | _____ | _____ |
| c. | $0.40x$ | _____ | _____ |
| d. | $(120\%)(x)$ | _____ | _____ |
| e. | $(70\%)(x)$ | _____ | _____ |
| f. | 63% of a number x | _____ | _____ |
| g. | 111% of a number x | _____ | _____ |

John buys his clothes at Super Discounts. On Saturday, he bought shoes regularly priced at \$40 for 25% off, and a jacket regularly priced at \$100 for 30% off. Write an expression to calculate his total bill?

A CD player that regularly sells for \$79.00 is on sale at a 15% discount. Then, 6.5% tax is added to the bill. What is the total cost?