

Unit 3: Percents STUDY GUIDE**Percent, Tax, Tip, Discount, Commission, Percent of Error/Change, Simple Interest****Percent Proportion**

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100} \text{ or } \frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

Percentage formula

1. What percent of 12 is 7?	3. 25 is 55% of what number?
2. Manuel found a wrecked Trans-Am that he could fix. He bought the car for 65% of the original price of \$7200. What did he pay for the car?	4. The Royals softball team played 75 games and won 55 of them. What percent of the games did they lose?

Steps:**Tax, Tip and Markup**

- Convert Percent to Decimal**
- Multiply Decimal and Original Price**
- Add to Original Price**

5. Your parents took your family out to dinner. Your parents wanted to give the waiter a 15% tip. If the total amount of the dinner was \$42.00, what is the total cost of the bill?	8. If the sales tax for the city of Los Angeles is 9.75%, how much tax would you pay for an item that costs \$200.00?
6. If you go out to eat with 3 friends and your meal was \$72.50, there is 6.75% sales tax and you should tip the waiter 15%. How much should each person pay?	9. The Oates family went out to dinner. <ul style="list-style-type: none"> The price of the meal was \$33.95. The sales tax was 7.25% of the price of the meal. The tip was 15% of the meal and the sales tax. How much money did the Oates family pay for the meal, including tax and tip?
7. The cost price of a book is \$8. Find the selling price of the book if the store's markup is 36%.	10. A store sells school bags for \$17.10 each. At what price should the store sell each bag, if the price needs to be marked up by 30%?

Steps:**Commission**

- Convert Percent to Decimal**
- Multiply Decimal and Original Price**

11. A real estate agent receives a 3% commission for selling a house. Find the commission that the agent earned for selling a house for \$131,000.	12. The owner of the Carousel Art Gallery receives a commission of 20% on paintings that are sold on consignment. Find the commission on a painting that sold for \$22,500.
--	---

Steps:

Discount and Markdown

1. **Convert Percent to Decimal**
2. **Multiply Decimal and Original Price**
3. **Subtract from Original Price**

<p>13. A football is selling for 35% off the original price. The original price was \$60. What is the sale price of the football?</p>	<p>15. A motorcycle that regularly sells for \$1,450 was discounted by 40% off. What is the sale price before tax?</p>
<p>14. Timmy wants to buy a scooter and the price was \$50. When he goes to the store a second time, he found that price was marked down by 20%. What is the new price?</p>	<p>16. A supermarket has marked down all items at 35 percent. Jeremy wants to buy a digital camera that regularly sells for \$55 and iPad that regularly sells for \$280. Determine the total sale price.</p>

Percent of Change and Percent of Error

$$\frac{\text{Difference}}{\text{Original}} = \frac{\%}{100}$$

$$\frac{\text{Difference}}{\text{Actual}} = \frac{\%}{100}$$

<p>17. In 1967, a 30-second Super Bowl commercial cost \$40,000. In 2000, a 30-second commercial cost \$1,800,000. What was the percent of change in the cost of a commercial?</p>	<p>20. Dennis wants to buy a card for his wife. Dennis calculates the amount of the card as \$4.50. The actual price of card is \$4. What is Dennis's percent error?</p>
<p>18. Shannon had 765 cards in her baseball collection. She sold 153 of the cards to purchase a new iPod. What is the percent of change in the number of Shannon's baseball card collection?</p>	<p>21. Sabrina calculates the cost of a book as \$50. The actual price was \$56. What is Sabrina's percent error?</p>
<p>19. Caroline, an employee of Hollister, bought a sweater originally priced at \$55 for \$38.50 after her employee discount. What percent off is the employee discount?</p>	<p>22. Joshua uses his thermometer and finds the boiling point of ethyl alcohol to be 75° C. He looks in a reference book and finds that the actual boiling point of ethyl alcohol is 80°C. What is his percent error?</p>

Simple Interest

$$I = P \times R \times T$$

Where:

- I** = the Interest Money created in dollars
- P** = the "Principal" starting amount of money
- R** = the Interest Rate per year (in decimal form)
- T** = the Time the money is Invested, or Borrowed, in Years

23. Principal = \$47,300, Rate = 3%, Time = 4 months. What will that total principal + interest payment be?

24. Richard deposited \$5,500 for 6 years on 2.40% interest rate in his saving account. How much simple interest will he earn?

25. Andrew borrows \$79,500 for 5 months on 6.30% interest rate in his saving account. Calculate the simple interest?

Name: _____ Date: _____ Block: _____