

# Personal Financial Literacy

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 24

## Q Quick Review

Money problems are really just real-number problems in disguise. **Simple interest** is found with  $I = P \times r \times t$ , where  $P$  is the principal (the starting amount),  $r$  is the yearly rate written as a decimal, and  $t$  is the time in years. The total in the account is then  $P + I$ . To find a **percent**, change the percent to a decimal and multiply. A **markup** adds to a price while a **discount** subtracts from it, and **sales tax** is a percent added at the end. Always read carefully whether a problem wants just the interest, just the discount, or the final total.

◇ **Example:** Maya deposits \$500 in an account that earns 4% simple interest per year. How much interest does she earn in 3 years, and what is her new balance?  
 ⇒ First write the rate as a decimal:  $4\% = 0.04$ . Now use  $I = P \times r \times t$  with  $P = 500$ ,  $r = 0.04$ , and  $t = 3$ :  $I = 500 \times 0.04 \times 3$ . Multiply step by step —  $500 \times 0.04 = 20$ , and  $20 \times 3 = 60$ . So she earns \$60 in interest. The new balance is the principal plus the interest:  $500 + 60 = 560$ .

**Answer:**  $I = \$60$ ; balance = \$560

## PRACTICE

Solve each money problem. Round money answers to the nearest cent.

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|--|---|
| 1. Interest: $P = \$200$ , $r = 5\%$ , $t = 2$ yr _____  | 11. 25% discount on \$60 _____                            |
| 2. Interest: $P = \$1000$ , $r = 3\%$ , $t = 4$ yr _____ | 12. Sale price: 25% off \$60 _____                        |
| 3. Interest: $P = \$800$ , $r = 6\%$ , $t = 1$ yr _____  | 13. Sale price: 30% off \$90 _____                        |
| 4. Interest: $P = \$1500$ , $r = 2\%$ , $t = 3$ yr _____ | 14. 10% tip on a \$35 bill _____                          |
| 5. Balance: $P = \$400$ , $r = 5\%$ , $t = 2$ yr _____   | 15. Total with 10% tip on \$35 _____                      |
| 6. Balance: $P = \$600$ , $r = 10\%$ , $t = 1$ yr _____  | 16. Interest: $P = \$2500$ , $r = 4\%$ , $t = 5$ yr _____ |
| 7. 15% of \$80 _____                                     | 17. Markup: 20% added to \$150 _____                      |
| 8. 20% of \$45 _____                                     | 18. Balance: $P = \$1200$ , $r = 7\%$ , $t = 2$ yr _____  |
| 9. 8% tax on \$50 _____                                  | 19. 6.5% tax on \$200 _____                               |
| 10. Price after 8% tax on \$50 _____                     | 20. Sale price: 15% off \$48 _____                        |

### ◆ Word Problems

21. Jordan puts \$750 into a savings account that pays 5% simple interest per year. How much money will be in the account after 4 years? \_\_\_\_\_
22. A jacket costs \$80. It is on sale for 30% off, and then 5% sales tax is added to the sale price. What is the final cost? \_\_\_\_\_
23. Priya's family eats out and the bill is \$60. They want to leave an 18% tip. How much is the tip, and what is the total they pay? \_\_\_\_\_
24. A store buys a backpack for \$25 and marks it up 40% to set the selling price. What is the selling price? \_\_\_\_\_



## Answer Keys

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|----------|--------------------------------|
| 1. \$20  | 13. \$63                       |
| 2. \$120 | 14. \$3.50                     |
| 3. \$48  | 15. \$38.50                    |
| 4. \$90  | 16. \$500                      |
| 5. \$440 | 17. \$180                      |
| 6. \$660 | 18. \$1368                     |
| 7. \$12  | 19. \$13                       |
| 8. \$9   | 20. \$40.80                    |
| 9. \$4   | 21. \$900                      |
| 10. \$54 | 22. \$58.80                    |
| 11. \$15 | 23. tip \$10.80; total \$70.80 |
| 12. \$45 | 24. \$35                       |

### Step-by-Step Explanations

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| <p>1. <math>I = 200 \times 0.05 \times 2 = 20</math> dollars.</p> <p>2. <math>I = 1000 \times 0.03 \times 4 = 120</math> dollars.</p> <p>3. <math>I = 800 \times 0.06 \times 1 = 48</math> dollars.</p> <p>4. <math>I = 1500 \times 0.02 \times 3 = 90</math> dollars.</p> <p>5. Interest is <math>400 \times 0.05 \times 2 = 40</math>, so the balance is <math>400 + 40 = 440</math>.</p> <p>6. Interest is <math>600 \times 0.10 \times 1 = 60</math>, so the balance is <math>600 + 60 = 660</math>.</p> <p>7. <math>0.15 \times 80 = 12</math> dollars.</p> <p>8. <math>0.20 \times 45 = 9</math> dollars.</p> <p>9. The tax is <math>0.08 \times 50 = 4</math> dollars.</p> <p>10. Add the \$4 tax to the price: <math>50 + 4 = 54</math> dollars.</p> <p>11. The discount is <math>0.25 \times 60 = 15</math> dollars off.</p> <p>12. Subtract the \$15 discount: <math>60 - 15 = 45</math> dollars.</p> <p>13. The discount is <math>0.30 \times 90 = 27</math>, so <math>90 - 27 = 63</math> dollars.</p> <p>14. <math>0.10 \times 35 = 3.50</math> dollars.</p> | <p>15. Add the \$3.50 tip: <math>35 + 3.50 = 38.50</math> dollars.</p> <p>16. <math>I = 2500 \times 0.04 \times 5 = 500</math> dollars.</p> <p>17. The markup is <math>0.20 \times 150 = 30</math>, so the new price is <math>150 + 30 = 180</math> dollars.</p> <p>18. Interest is <math>1200 \times 0.07 \times 2 = 168</math>, so the balance is <math>1200 + 168 = 1368</math>.</p> <p>19. <math>0.065 \times 200 = 13</math> dollars.</p> <p>20. The discount is <math>0.15 \times 48 = 7.20</math>, so <math>48 - 7.20 = 40.80</math> dollars.</p> <p>21. Interest is <math>I = 750 \times 0.05 \times 4 = 150</math> dollars. The balance is the principal plus interest: <math>750 + 150 = 900</math> dollars.</p> <p>22. The discount is <math>0.30 \times 80 = 24</math>, so the sale price is <math>80 - 24 = 56</math>. The tax is <math>0.05 \times 56 = 2.80</math>, so the final cost is <math>56 + 2.80 = 58.80</math> dollars.</p> <p>23. The tip is <math>0.18 \times 60 = 10.80</math> dollars. The total is the bill plus the tip: <math>60 + 10.80 = 70.80</math> dollars.</p> <p>24. The markup is <math>0.40 \times 25 = 10</math> dollars. The selling price is the cost plus the markup: <math>25 + 10 = 35</math> dollars.</p> |
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