

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.

- | | | | |
|--|-------|---|-------|
| 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

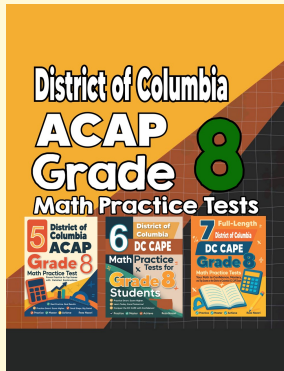
- | | |
|----------|--------------------------------|
| 1. \$20 | 13. \$63 |
| 2. \$120 | 14. \$3.50 |
| 3. \$48 | 15. \$38.50 |
| 4. \$90 | 16. \$500 |
| 5. \$440 | 17. \$180 |
| 6. \$660 | 18. \$1368 |
| 7. \$12 | 19. \$13 |
| 8. \$9 | 20. \$40.80 |
| 9. \$4 | 21. \$900 |
| 10. \$54 | 22. \$58.80 |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

Step-by-Step Explanations

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