

Simple Interest

Name: _____ Date: _____ Score: _____ / 18

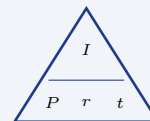
Quick Review and Helpful Hints

Simple interest is $I = P \cdot r \cdot t$, where P is the principal (starting amount), r is the yearly rate written as a *decimal*, and t is the time in years. The total amount is $A = P + I$. Always change the percent rate to a decimal before multiplying.

▶ **Example:** Find the simple interest on \$500 at 4% for 3 years.

Work: Use $I = Prt$ with $r = 0.04$: $I = 500 \times 0.04 \times 3$. Multiply step by step: $500 \times 0.04 = 20$, then 20×3 .

★ **Answer:** \$60



$$I = P \times r \times t.$$

◆ Practice Problems

Find the simple interest I .

- | | |
|---|--|
| <p>1. $P = \\$100, r = 5\%, t = 1 \text{ yr}$ _____</p> <p>2. $P = \\$200, r = 10\%, t = 2 \text{ yr}$ _____</p> <p>3. $P = \\$1000, r = 3\%, t = 4 \text{ yr}$ _____</p> <p>4. $P = \\$500, r = 6\%, t = 1 \text{ yr}$ _____</p> <p>5. $P = \\$800, r = 5\%, t = 2 \text{ yr}$ _____</p> <p>6. $P = \\$1500, r = 4\%, t = 3 \text{ yr}$ _____</p> <p>7. $P = \\$250, r = 8\%, t = 1 \text{ yr}$ _____</p> | <p>8. $P = \\$2000, r = 2\%, t = 5 \text{ yr}$ _____</p> <p>9. $P = \\$400, r = 10\%, t = 3 \text{ yr}$ _____</p> <p>10. $P = \\$600, r = 5\%, t = 4 \text{ yr}$ _____</p> <p>11. $P = \\$1200, r = 6\%, t = 2 \text{ yr}$ _____</p> <p>12. $P = \\$300, r = 4\%, t = 5 \text{ yr}$ _____</p> <p>13. $P = \\$5000, r = 3\%, t = 1 \text{ yr}$ _____</p> <p>14. $P = \\$900, r = 10\%, t = 2 \text{ yr}$ _____</p> |
|---|--|

◆ Word Problems

15. You deposit \$1000 at 5% simple interest for 3 years. How much interest do you earn? _____
16. A \$2000 loan is at 4% simple interest for 2 years. What is the total amount to repay? _____
17. How much interest does \$500 earn at 6% for 1 year? _____
18. A \$1500 investment earns 8% simple interest for 2 years. How much interest is that? _____



Answer Keys

- | | | |
|---------------------------------------|--|---|
| 1. <input type="text" value="\$5"/> | 7. <input type="text" value="\$20"/> | 13. <input type="text" value="\$150"/> |
| 2. <input type="text" value="\$40"/> | 8. <input type="text" value="\$200"/> | 14. <input type="text" value="\$180"/> |
| 3. <input type="text" value="\$120"/> | 9. <input type="text" value="\$120"/> | 15. <input type="text" value="\$150"/> |
| 4. <input type="text" value="\$30"/> | 10. <input type="text" value="\$120"/> | 16. <input type="text" value="\$2160"/> |
| 5. <input type="text" value="\$80"/> | 11. <input type="text" value="\$144"/> | 17. <input type="text" value="\$30"/> |
| 6. <input type="text" value="\$180"/> | 12. <input type="text" value="\$60"/> | 18. <input type="text" value="\$240"/> |

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Use $I = Prt$. Change 5% to 0.05, then multiply: $100 \times 0.05 \times 1 = \5 . So the final answer is \$5.

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 200 \times 0.10 \times 2$. Step by step: $200 \times 0.10 = 20$, then $20 \times 2 = \$40$. So the final answer is \$40.

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 1000 \times 0.03 \times 4 = 30 \times 4 = \120 . So the final answer is \$120.

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 500 \times 0.06 \times 1 = \30 . So the final answer is \$30.

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 800 \times 0.05 \times 2 = 40 \times 2 = \80 . So the final answer is \$80.

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 1500 \times 0.04 \times 3 = 60 \times 3 = \180 . So the final answer is \$180.

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 250 \times 0.08 \times 1 = \20 . So the final answer is \$20.

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 2000 \times 0.02 \times 5 = 40 \times 5 = \200 . So the final answer is \$200.

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 400 \times 0.10 \times 3 = 40 \times 3 = \120 . So the final answer is \$120.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 600 \times 0.05 \times 4 = 30 \times 4 = \120 . So the final answer is \$120.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 1200 \times 0.06 \times 2 = 72 \times 2 = \144 . So the final answer is \$144.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 300 \times 0.04 \times 5 = 12 \times 5 = \60 . So the final answer is \$60.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 5000 \times 0.03 \times 1 = \150 . So the final answer is \$150.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 900 \times 0.10 \times 2 = 90 \times 2 = \180 . So the final answer is \$180.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Use $I = Prt$: $1000 \times 0.05 \times 3 = 50 \times 3 = \150 interest. So the final answer is \$150.

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Interest is $2000 \times 0.04 \times 2 = 80 \times 2 = \160 . The total to repay is $2000 + 160 = \$2160$. So the final answer is \$2160.

17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 500 \times 0.06 \times 1 = \30 . So the final answer is \$30.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $I = 1500 \times 0.08 \times 2 = 120 \times 2 = \240 . So the final answer is \$240.



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