

Solving Percent Problems

Name: _____ Date: _____ Score: _____ / 24

Q Quick Review

There are three kinds of percent problems. **Finding the part:** to find 25% of 80, change the percent to a decimal and multiply: $0.25 \times 80 = 20$. **Finding the percent:** to find what percent 12 is of 48, divide the part by the whole and multiply by 100: $\frac{12}{48} \times 100 = 25\%$. **Finding the whole:** if 30 is 20% of a number, divide the part by the decimal: $30 \div 0.20 = 150$. A helpful sentence to remember is “*part is percent of whole.*”

◇ **Example:** What is 15% of 200?

⇒ This problem asks for the *part*. First, change 15% into a decimal by dividing by 100: $15\% = 0.15$. The word “of” tells us to multiply, so we compute 0.15×200 . Multiplying gives 30. A quick sense-check: 10% of 200 is 20, and 15% should be a bit more than that — 30 fits nicely.

Answer: 30

PRACTICE

Solve each percent problem.

- | | | | |
|------------------------------|-------|-------------------------------|-------|
| 1. Find 25% of 80 | _____ | 11. Find 80% of 35 | _____ |
| 2. Find 10% of 250 | _____ | 12. What percent of 20 is 7? | _____ |
| 3. Find 40% of 60 | _____ | 13. 45 is 90% of what number? | _____ |
| 4. Find 15% of 200 | _____ | 14. Find 12% of 150 | _____ |
| 5. Find 75% of 48 | _____ | 15. What percent of 28 is 21? | _____ |
| 6. What percent of 48 is 12? | _____ | 16. Find 30% of 90 | _____ |
| 7. What percent of 36 is 9? | _____ | 17. 24 is 60% of what number? | _____ |
| 8. 30 is 20% of what number? | _____ | 18. What percent of 50 is 35? | _____ |
| 9. 18 is 50% of what number? | _____ | 19. Find 8% of 75 | _____ |
| 10. Find 5% of 300 | _____ | 20. 16 is 40% of what number? | _____ |

◆ Word Problems

21. A jacket costs \$60, and it is 25% off. How much money is saved on the jacket? _____
22. Out of 40 students, 30 ride the bus. What percent of students ride the bus? _____
23. A team won 18 games, which was 60% of all the games they played. How many games did they play in all? _____
24. A water tank holds 250 gallons when full. Right now it is 36% full. How many gallons of water are in the tank? _____



Answer Keys

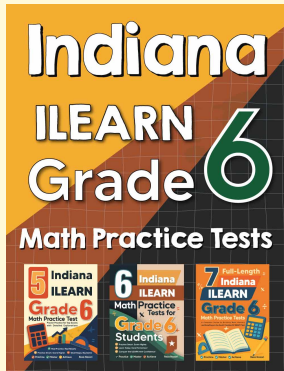
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|---------|----------------|
| 1. 20 | 13. 50 |
| 2. 25 | 14. 18 |
| 3. 24 | 15. 75% |
| 4. 30 | 16. 27 |
| 5. 36 | 17. 40 |
| 6. 25% | 18. 70% |
| 7. 25% | 19. 6 |
| 8. 150 | 20. 40 |
| 9. 36 | 21. \$15 |
| 10. 15 | 22. 75% |
| 11. 28 | 23. 30 games |
| 12. 35% | 24. 90 gallons |

Step-by-Step Explanations

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| <p>1. Change to a decimal and multiply: $0.25 \times 80 = 20$.</p> <p>2. 10% is 0.10, and $0.10 \times 250 = 25$.</p> <p>3. 40% is 0.40, and $0.40 \times 60 = 24$.</p> <p>4. 15% is 0.15, and $0.15 \times 200 = 30$.</p> <p>5. 75% is 0.75, and $0.75 \times 48 = 36$.</p> <p>6. Divide part by whole: $\frac{12}{48} \times 100 = 25\%$.</p> <p>7. Divide: $\frac{9}{36} \times 100 = 25\%$.</p> <p>8. Divide the part by the decimal: $30 \div 0.20 = 150$.</p> <p>9. 50% is half, so the whole is $18 \div 0.50 = 36$.</p> <p>10. 5% is 0.05, and $0.05 \times 300 = 15$.</p> <p>11. 80% is 0.80, and $0.80 \times 35 = 28$.</p> <p>12. Divide: $\frac{7}{20} \times 100 = 35\%$.</p> | <p>13. Divide the part by the decimal: $45 \div 0.90 = 50$.</p> <p>14. 12% is 0.12, and $0.12 \times 150 = 18$.</p> <p>15. Divide: $\frac{21}{28} \times 100 = 75\%$.</p> <p>16. 30% is 0.30, and $0.30 \times 90 = 27$.</p> <p>17. Divide the part by the decimal: $24 \div 0.60 = 40$.</p> <p>18. Divide: $\frac{35}{50} \times 100 = 70\%$.</p> <p>19. 8% is 0.08, and $0.08 \times 75 = 6$.</p> <p>20. Divide the part by the decimal: $16 \div 0.40 = 40$.</p> <p>21. Find 25% of 60: change to 0.25 and multiply, $0.25 \times 60 = 15$. The savings are \$15.</p> <p>22. Divide the part by the whole: $\frac{30}{40} = 0.75$. Then $0.75 \times 100 = 75\%$.</p> <p>23. 18 is 60% of the whole, so divide: $18 \div 0.60 = 30$ games.</p> <p>24. Find 36% of 250: $0.36 \times 250 = 90$ gallons.</p> |
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