Solving Percent Problems

Name: _____	Date: _____	Score: _____ / 24

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

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

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

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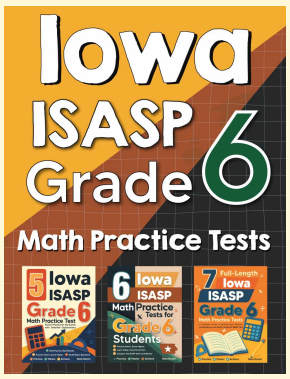

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