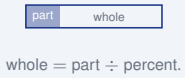
Finding the Whole from a Part and Percent

Name: _____	Date: _____	Score: _____ / 18

Quick Review and Helpful Hints

When a *part* is a known percent of a whole, find the whole by *dividing* the part by the percent (written as a decimal): whole $=$ part $\div$ percent. For example, if 25% is known, divide by 0.25.

▷ **Example:** 20 is 25% of what number? **Work:** Divide the part by the percent as a decimal: $20 \div 0.25 = 80$. ★ **Answer:** 80



whole = part ÷ percent.

Practice Problems

Find the whole.

1. 20 is 25% of? _____

2. 10 is 50% of? _____

3. 15 is 10% of? _____

4. 6 is 20% of? _____

5. 9 is 30% of? _____

6. 50 is 100% of? _____

7. 12 is 25% of? _____

8. 5 is 5% of? _____

9. 40 is 80% of? _____

10. 3 is 10% of? _____

11. 18 is 60% of? _____

12. 7 is 50% of? _____

13. 25 is 50% of? _____

14. 8 is 40% of? _____

Word Problems

15. A tip of $\$6$ is 20% of the bill. Find the bill. _____

16. 30 students passed, which is 75% of the class. Find the class size. _____

17. $\$12$ is 25% of a price. Find the price. _____

18. 9 is 30% of what number? _____

Answer Keys

1. 80	**7.** 48	**13.** 50
2. 20	**8.** 100	**14.** 20
3. 150	**9.** 50	**15.** 30
4. 30	**10.** 30	**16.** 40
5. 30	**11.** 30	**17.** 48
6. 50	**12.** 14	**18.** 30

Step-by-Step Explanations

1. Start by naming the process: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $20 \div 0.25 = 80$. So the final answer is 80.

2. A good way to think about this is: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $10 \div 0.50 = 20$. So the final answer is 20.

3. Step by step: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $15 \div 0.10 = 150$. So the final answer is 150.

4. Take it one move at a time: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $6 \div 0.20 = 30$. So the final answer is 30.

5. Start by naming the process: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $9 \div 0.30 = 30$. So the final answer is 30.

6. A good way to think about this is: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $50 \div 1 = 50$. So the final answer is 50.

7. Step by step: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $12 \div 0.25 = 48$. So the final answer is 48.

8. Take it one move at a time: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $5 \div 0.05 = 100$. So the final answer is 100.

9. Start by naming the process: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $40 \div 0.80 = 50$. So the final answer is 50.

10. A good way to think about this is: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $3 \div 0.10 = 30$. So the final answer is 30.

11. Step by step: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $18 \div 0.60 = 30$. So the final answer is 30.

12. Take it one move at a time: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $7 \div 0.50 = 14$. So the final answer is 14.

13. Start by naming the process: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $25 \div 0.50 = 50$. So the final answer is 50.

14. A good way to think about this is: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $8 \div 0.40 = 20$. So the final answer is 20.

15. Step by step: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $6 \div 0.20 = 30$. So the final answer is 30.

16. Take it one move at a time: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $30 \div 0.75 = 40$. So the final answer is 40.

17. Start by naming the process: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $12 \div 0.25 = 48$. So the final answer is 48.

18. A good way to think about this is: When a part is a percent of a whole, change the percent to a decimal and divide the part by that decimal. The setup/work is $9 \div 0.30 = 30$. So the final answer is 30.

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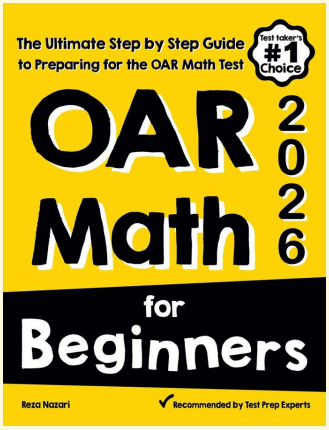

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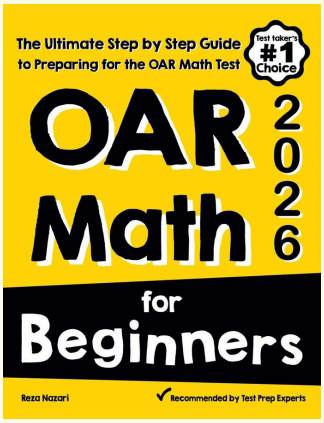

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