

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): $\text{whole} = \text{part} \div \text{percent}$. 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

part	whole
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$\text{whole} = \text{part} \div \text{percent}$.

◆ Practice Problems

Find the whole.

- | | |
|--|---|
| <p>1. 20 is 25% of? _____</p> <p>2. 10 is 50% of? _____</p> <p>3. 15 is 10% of? _____</p> <p>4. 6 is 20% of? _____</p> <p>5. 9 is 30% of? _____</p> <p>6. 50 is 100% of? _____</p> <p>7. 12 is 25% of? _____</p> | <p>8. 5 is 5% of? _____</p> <p>9. 40 is 80% of? _____</p> <p>10. 3 is 10% of? _____</p> <p>11. 18 is 60% of? _____</p> <p>12. 7 is 50% of? _____</p> <p>13. 25 is 50% of? _____</p> <p>14. 8 is 40% of? _____</p> |
|--|---|

◆ 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

2. 20

3. 150

4. 30

5. 30

6. 50

7. 48

8. 100

9. 50

10. 30

11. 30

12. 14

13. 50

14. 20

15. 30

16. 40

17. 48

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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