

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 | 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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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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