



## SKILL 18: Finding the Base

Sometimes you will know the values for the part and the percent of a number. You can use a percent proportion to find the whole, or **base** number value.

### Example

**20% of what number is 3?**

*Think:* The value 3 is 20% of what base number?

Write a proportion. *Think:* 3 out of how many equals 20 out of 100?

$$\begin{array}{l} \text{part} \rightarrow \frac{3}{x} = \frac{20}{100} \\ \text{whole} \rightarrow \end{array}$$

Write the cross products.  $20x = 3 \times 100$

$$20x = 300$$

Divide by 20.  $x = 300 \div 20$

$$x = 15$$

20% of 15 is 3.

### Guided Practice

**Complete the steps to find the base.**

1. 54 is 90% of what number?

a. *Think:* 54 out of how many is equal to 90 out of 100?

b. Write a proportion.

$$\frac{\square}{x} = \frac{90}{100}$$

c. Write the cross products.

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

d. Divide to undo the multiplication.

$$x = \underline{\hspace{2cm}}$$

54 is 90% of \_\_\_\_\_.

2. 50% of what number is 37?

a. *Think:* \_\_\_\_\_ out of how many is equal to 50 out of 100?

b.  $\frac{\square}{\square} = \frac{\square}{\square}$

c.  $\square = \square$

50% of \_\_\_\_\_ is 37.

3. 45 is 225% of what number?

a. *Think:* \_\_\_\_\_ out of how many is equal to 225 out of 100?

b.  $\frac{\square}{\square} = \frac{\square}{\square}$

c.  $\square = \square$

45 is 225% of \_\_\_\_\_.

**SKILL 18: Practice**

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**Find each base.**

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|--|--|
| 1. 70% of what number is 35?<br>_____                | 2. 18% of what number is 81?<br>_____                |
| 3. 45% of what number is 27?<br>_____                | 4. 25% of what number is 19?<br>_____                |
| 5. 30% of what number is 27?<br>_____                | 6. 14 is 25% of what number?<br>_____                |
| 7. 104 is 5% of what number?<br>_____                | 8. 20% of what number is 14.4?<br>_____              |
| 9. 125% of what number is 15?<br>_____               | 10. 0.9 is 10% of what number?<br>_____              |
| 11. $33\frac{1}{3}\%$ of what number is 36?<br>_____ | 12. 0.4% of what number is 8?<br>_____               |
| 13. 10 is 2.5% of what number?<br>_____              | 14. 22 is $12\frac{1}{2}\%$ of what number?<br>_____ |

**Solve each problem.**

15. The members of the school band sold \$1,800 worth of fruit. This was 60% of their fundraising goal. How much was their goal? \_\_\_\_\_
16. Amy sells computer software. She earns 28% of her total sales in commission. If she earned \$1,897 in commissions last month, what were her total sales for the month? \_\_\_\_\_
17. Shing sold 13 computers this week. This was 4% of the computers in stock. How many computers were in stock? \_\_\_\_\_



18. 12% of what number is 9?

A 75	C 1.08
B 7.5	D 750

*Skill 18*

19. Write 0.003 as a percent.

F 30%	H 0.03%
G 0.3%	J 3%

*Skill 15*