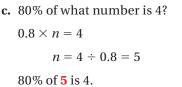# Calculating with Percents TEKS 8.1.B

You can use equations to calculate with percents. Replace words with symbols as shown in the table at the right. Below are three types of questions you can answer with percents.

Word	what	of	is
Symbol	n	$\times$	$=$

EXAMPLE Answer the question.

a. What is 15% of 20?

$n = 0.15 \times 20$

$n = 3$

3 is 15% of 20.

b. What percent of 8 is 6?

$n \times 8 = 6$

$n = 6 \div 8 = 0.75 = 75\%$

75% of 8 is 6.

c. 80% of what number is 4?

$0.8 \times n = 4$

$n = 4 \div 0.8 = 5$

80% of **5** is 4.

To find a percent of change, calculate $\dfrac{\text{Amount of increase or decrease}}{\text{Original amount}}$.

EXAMPLE Find the percent of change.

a. A class increases from 21 students to 25 students.

$\dfrac{25 - 21}{21} = \dfrac{4}{21} \approx 0.19 = 19\%$ increase

b. A price decreases from $12 to $9.

$\dfrac{12 - 9}{12} = \dfrac{3}{12} = 0.25 = 25\%$ decrease

PRACTICE

Answer the question.

1. What is 98% of 200?
2. What is 25% of 8?
3. What is 30% of 128?
4. What is 5% of 700?
5. What is 100% of 17?
6. What is 150% of 14?
7. What is 0.2% of 500?
8. What is 6.5% of 3000?
9. What percent of 100 is 54?
10. What percent of 18 is 9?
11. What percent of 80 is 8?
12. What percent of 15 is 20?
13. What percent of 30 is 6?
14. What percent of 5 is 8?
15. What percent of 50 is 1?

16. 50% of what number is 6?
17. 55% of what number is 44?
18. 10% of what number is 6?
19. 75% of what number is 45?
20. 1% of what number is 2?
21. 90% of what number is 63?
22. 12% of what number is 60?
23. 200% of what number is 16?

Find the percent of change. Round to the nearest percent if necessary.

24. A class increases from 20 to 28 students.
25. Time decreases from 60 to 45 minutes.
26. A price is reduced from $200 to $180.
27. Votes increase from 200 to 300.
28. A test is shortened from 40 to 32 items.
29. Membership increases from 820 to 1605.
30. A wage rises from $8.75 to $10.00.
31. The temperature drops from 24°F to 5°F.