

Times As Much

Compare quantities by dividing.

GRADE 6 • TEKS 6.4.C

6.4.C "give examples of ratios as multiplicative comparisons of two quantities describing the same attribute;"

NAME _____

DATE _____

MULTIPLICATIVE COMPARISONS

A multiplicative comparison tells how many times one quantity is as large as another quantity of the same kind. Divide the first quantity by the second quantity to find the multiplier. The multiplier can be a whole number, a fraction, or a mixed number.

WORKED EXAMPLE

A 21-centimeter plant is compared with a 7-centimeter plant. How many times as tall is the first plant?

1. Compare the heights in the order named: 21 / 7.
2. Divide: $21 / 7 = 3$.
3. State the comparison: 21 is 3 times 7.

Answer: The first plant is 3 times as tall as the second plant.

PRACTICE 6 problems

- 1** A student reads for 24 minutes on Monday and 8 minutes on Tuesday. Write a multiplicative comparison that compares Monday's reading time to Tuesday's reading time.

ANSWER _____

- 2** A bottle holds 15 ounces of water. A larger bottle holds 20 ounces. Write a multiplicative comparison that compares the first bottle's amount to the larger bottle's amount.

ANSWER _____

- 3** The blue team scores 36 points, and the gold team scores 9 points. Complete the comparison: The blue team scored ____ times as many points as the gold team.

ANSWER _____

- 4** One trail is 14 miles long, and another trail is 28 miles long. Write a multiplicative comparison that compares the shorter trail to the longer trail.

ANSWER _____

- 5** A game level has 27 coins. Another level has 6 coins. Write a multiplicative comparison that compares the first level's coins to the second level's coins.

ANSWER _____

- 6** A 45-second video clip is 5 times as long as a shorter clip. How long is the shorter clip?

ANSWER _____

APPLY IT

Show your work

- 1** During a dance challenge, Jae's video gets 32 likes. Sam's video gets 8 likes. Write a multiplicative comparison that compares Jae's likes to Sam's likes.

WORK SPACE

ANSWER _____

- 2** At basketball practice, the first team makes 18 free throws. The second team makes 27 free throws. Write a multiplicative comparison that compares the first team's makes to the second team's makes.

WORK SPACE

ANSWER _____

CHALLENGE

One step up

Three videos get 48 likes, 16 likes, and 12 likes. Write two true multiplicative comparison sentences that compare the 48-like video to each of the other videos. Then explain why the statement "16 is 4 times 12" is not true.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A student reads for 24 minutes on Monday and 8 minutes on Tuesday. Write a multiplicative comparison that compares Monday's reading time to Tuesday's reading time.	24 minutes is 3 times 8 minutes.
2	A bottle holds 15 ounces of water. A larger bottle holds 20 ounces. Write a multiplicative comparison that compares the first bottle's amount to the larger bottle's amount.	15 ounces is $\frac{3}{4}$ times 20 ounces.
3	The blue team scores 36 points, and the gold team scores 9 points. Complete the comparison: The blue team scored ___ times as many points as the gold team.	4
4	One trail is 14 miles long, and another trail is 28 miles long. Write a multiplicative comparison that compares the shorter trail to the longer trail.	14 miles is $\frac{1}{2}$ times 28 miles.
5	A game level has 27 coins. Another level has 6 coins. Write a multiplicative comparison that compares the first level's coins to the second level's coins.	27 coins is 4 $\frac{1}{2}$ times 6 coins.
6	A 45-second video clip is 5 times as long as a shorter clip. How long is the shorter clip?	9 seconds

PART 2 • APPLY IT

- Jae's video gets 4 times as many likes as Sam's video.** Divide 32 by 8. Since $32 \div 8 = 4$, Jae's video has 4 times as many likes.
- The first team makes $\frac{2}{3}$ times as many free throws as the second team.** Divide 18 by 27. Simplify $18/27$ to $\frac{2}{3}$.

CHALLENGE

The 48-like video has 3 times as many likes as the 16-like video. The 48-like video has 4 times as many likes as the 12-like video. The statement is not true because 16 is $\frac{4}{3}$ times 12, not 4 times 12.

Accept equivalent fraction forms, such as $18/27$ for $\frac{2}{3}$, when the multiplicative comparison is correct. For whole-number answers, accept a complete comparison sentence or the correct multiplier in a completed sentence frame.