LESSON MAKER PRO

Fraction Groups

Use models and equations to multiply fractions.

GRADE 4 · 4.NF.B.16.c

4.NF.B.16.c "Solve word problems involving multiplying a whole number times a fraction using visual fraction models and equations to represent the problem."

NAME _____ DATE _____

THE BIG IDEA

When you have equal groups of a fraction, multiply the number of groups by the fraction. The denominator stays the same because the size of each part does not change.

WORKED EXAMPLE

Five teams each hike 4/7 mile. How far do they hike altogether?

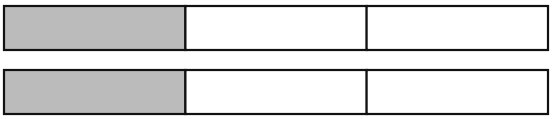
Miles	4/7	4/7	4/7	4/7	4/7

1. There are 5 equal groups of 4/7 mile.
2. Write 5 x 4/7 = 20/7.
3. Change 20/7 to 2 6/7.

Answer: 2 6/7 miles

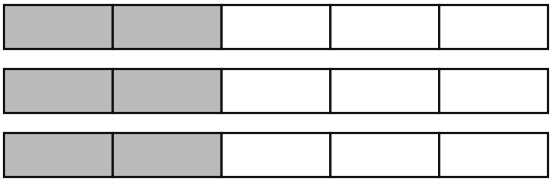
PRACTICE 6 problems

1 Write a multiplication equation for the bars. How much is shaded altogether?



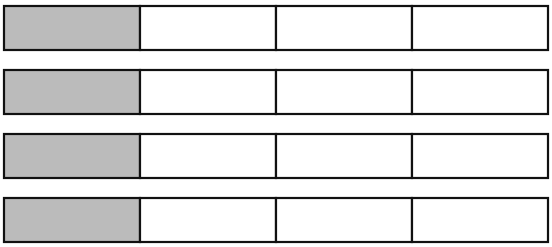
ANSWER _____

2 Write a multiplication equation for the bars. How much is shaded altogether?



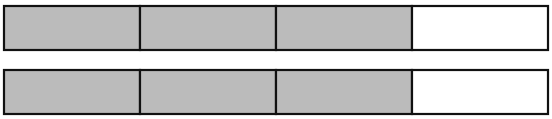
ANSWER _____

3 Write a multiplication equation for the bars. How much is shaded altogether?



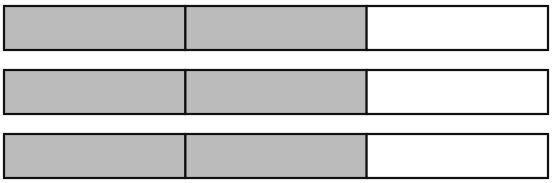
ANSWER _____

4 Write a multiplication equation for the bars. How much is shaded altogether?



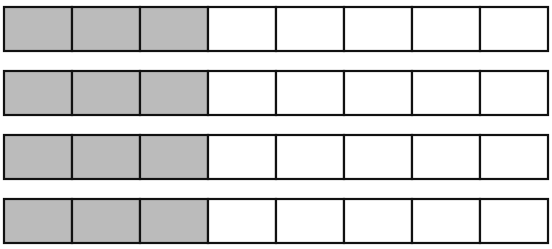
ANSWER _____

5 Write a multiplication equation for the bars. How much is shaded altogether?



ANSWER _____

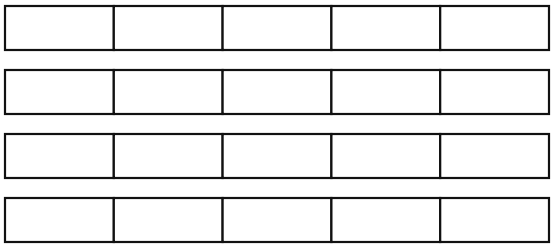
6 Write a multiplication equation for the bars. How much is shaded altogether?



ANSWER _____

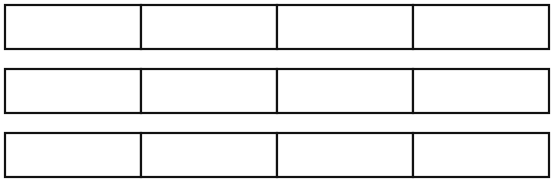
APPLY IT Show your work

1 In a game, each power-up fills 2/5 of an energy bar. A player collects 4 power-ups. Shade the model, write a multiplication equation, and find how many energy bars the player gains.



ANSWER _____

2 Lila uses 3/4 yard of string for each friendship bracelet. She makes 3 bracelets. Shade the model, write a multiplication equation, and find how many yards of string she uses.



ANSWER _____

CHALLENGE One step up

A game team earns 3/5 of a point in each of 6 rounds. Use the model to write a multiplication equation. Is its total score closer to 3 points or 4 points? Explain why.

Points	3/5	3/5	3/5	3/5	3/5	3/5

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Groups

GRADE 4 · 4.NF.B.16.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write a multiplication equation for the bars. How much is shaded altogether?	**2 x 1/3 = 2/3**
2	Write a multiplication equation for the bars. How much is shaded altogether?	**3 x 2/5 = 6/5 = 1 1/5**
3	Write a multiplication equation for the bars. How much is shaded altogether?	**4 x 1/4 = 4/4 = 1**
4	Write a multiplication equation for the bars. How much is shaded altogether?	**2 x 3/4 = 6/4 = 1 1/2**
5	Write a multiplication equation for the bars. How much is shaded altogether?	**3 x 2/3 = 6/3 = 2**
6	Write a multiplication equation for the bars. How much is shaded altogether?	**4 x 3/8 = 12/8 = 1 1/2**

PART 2 · APPLY IT

1. **4 x 2/5 = 8/5 = 1 3/5 energy bars** Shade 2 parts in each of the 4 bars. The 8 shaded fifths make 1 3/5 energy bars.
2. **3 x 3/4 = 9/4 = 2 1/4 yards** Shade 3 parts in each of the 3 bars. The 9 shaded fourths make 2 1/4 yards.

CHALLENGE

6 x 3/5 = 18/5 = 3 3/5 points. The score is closer to 4 points because it is 2/5 point from 4 but 3/5 point from 3.

Accept equivalent fractions or mixed numbers for totals. In the challenge, accept any correct comparison showing that 3 3/5 is closer to 4.