LESSON MAKER PRO

Ratios in Action

Use ratios to compare, price, and plan.

GRADE 6 · 6.N.3

6.N.3 "Explain and use the concept of ratio and its relationship to other rational numbers and to the multiplication and division of whole numbers. Use ratios to solve problems..."

NAME _____ DATE _____

THE BIG IDEA

A ratio compares two amounts. To find a unit rate, divide to find the amount for 1 unit. To find a percent, write a part-to-whole ratio as a fraction out of 100.

WORKED EXAMPLE

A craft club uses 42 beads to make 6 bracelets. How many beads does it use per bracelet?

1. Write the ratio: 42 beads / 6 bracelets.
2. Divide both amounts by 6: 7 beads / 1 bracelet.

Answer: 7 beads per bracelet

PRACTICE 6 problems

1 A class puts 18 pencils into 2 equal boxes. How many pencils are in each box?

ANSWER _____

2 A playlist lasts 30 minutes and has 10 songs of equal length. How many minutes long is each song?

ANSWER _____

3 A bag has 12 orange counters and 16 purple counters. Write the ratio of orange counters to purple counters in simplest form.

ANSWER _____

4 In a vote, 15 out of 20 students choose a movie. What percent of the students choose the movie?

ANSWER _____

5 A pack of 8 markers costs $12. What is the cost per marker?

ANSWER _____

6 A basket has 10 apples and 2 pears. How many times as many apples as pears are there? How many more apples than pears are there?

ANSWER _____

APPLY IT Show your work

1 At an arcade, 9 games cost 45 tokens. If each game costs the same number of tokens, how many tokens will you need for 12 games?

WORK SPACE

ANSWER _____

2 At the school store, a 12-ounce bag of popcorn costs $3, and a 20-ounce bag costs $4. Which bag costs less per ounce, and how much less per ounce?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A gaming club has 80 members. The ratio of members who play puzzle games to members who do not is 3:2. How many members play puzzle games, and what percent of all members is that? Show how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Ratios in Action

GRADE 6 · 6.N.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A class puts 18 pencils into 2 equal boxes. How many pencils are in each box?	**9 pencils per box**
2	A playlist lasts 30 minutes and has 10 songs of equal length. How many minutes long is each song?	**3 minutes per song**
3	A bag has 12 orange counters and 16 purple counters. Write the ratio of orange counters to purple counters in simplest form.	**3:4**
4	In a vote, 15 out of 20 students choose a movie. What percent of the students choose the movie?	**75%**
5	A pack of 8 markers costs $12. What is the cost per marker?	**$1.50 per marker**
6	A basket has 10 apples and 2 pears. How many times as many apples as pears are there? How many more apples than pears are there?	**5 times as many apples; 8 more apples**

PART 2 · APPLY IT

1. **60 tokens** Divide 45 by 9 to get 5 tokens per game. Multiply 5 by 12 to get 60 tokens.
2. **The 20-ounce bag costs $0.05 less per ounce.** The 12-ounce bag costs $3 / 12 = $0.25 per ounce. The 20-ounce bag costs $4 / 20 = $0.20 per ounce, a difference of $0.05 per ounce.

CHALLENGE

48 members; 60%. There are 3 + 2 = 5 equal parts, so each part represents 80 / 5 = 16 members. The 3 parts who play represent 3 × 16 = 48 members, and 48 / 80 = 60%.

For the challenge, accept any correct method that uses the part-to-whole relationship to find both 48 members and 60%. In problem 6, check that students use division for “times as many” and subtraction for “how many more.”