LESSON MAKER PRO

Rates in Action

Connect ratios, unit rates, fractions, and percents.

GRADE 6 · 6.N.3.3

6.N.3.3 "Apply the relationship between ratios, equivalent fractions, unit rates, and percents to solve problems in various contexts."

NAME _____ DATE _____

THE BIG IDEA

Write a part-to-whole ratio as a fraction to find what percent of the whole the part represents. Make an equivalent fraction with a denominator of 100, or divide the part by the whole and multiply by 100. To find a unit rate, divide to find the amount for 1.

WORKED EXAMPLE

A team wins 11 of its 20 games. What percent of its games does it win?

1. Write the part-to-whole fraction: 11/20.
2. Multiply the numerator and denominator by 5: 11/20 = 55/100.
3. 55/100 means 55%.

Answer: 55%

PRACTICE 6 problems

1 You answer 9 of 12 questions correctly. What percent do you answer correctly?

ANSWER _____

2 A bag has 5 blue marbles out of 8 marbles. What percent of the marbles are blue?

ANSWER _____

3 Thirty stickers cost $18. What is the cost per sticker? What percent of $1 is that cost?

ANSWER _____

4 A player makes 14 of 40 shots. What percent of the shots does the player make?

ANSWER _____

5 The ratio of red tiles to all tiles is 22:50. Write an equivalent fraction with a denominator of 100, then write the percent of tiles that are red.

ANSWER _____

6 A club has 45 members. If 80% attend a meeting, how many members attend?

ANSWER _____

APPLY IT Show your work

1 In a game, you earn a badge in 24 of 32 challenges. What percent of the challenges earn you a badge?

WORK SPACE

ANSWER _____

2 You earn 48 game coins for completing 6 levels. If you earn coins at the same rate, how many coins will you earn for completing 9 levels?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A playlist has 60 songs. Of those songs, 2/5 are pop songs. Of the pop songs, 25% are duets. How many songs are pop duets, and what percent of the whole playlist are they?

WORK SPACE AND ANSWER

ANSWER KEY

Rates in Action

GRADE 6 · 6.N.3.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	You answer 9 of 12 questions correctly. What percent do you answer correctly?	**75%**
2	A bag has 5 blue marbles out of 8 marbles. What percent of the marbles are blue?	**62.5%**
3	Thirty stickers cost $18. What is the cost per sticker? What percent of $1 is that cost?	**$0.60 per sticker; 60% of $1**
4	A player makes 14 of 40 shots. What percent of the shots does the player make?	**35%**
5	The ratio of red tiles to all tiles is 22:50. Write an equivalent fraction with a denominator of 100, then write the percent of tiles that are red.	**44/100; 44%**
6	A club has 45 members. If 80% attend a meeting, how many members attend?	**36 members**

PART 2 · APPLY IT

1. **75%** Write 24/32 as the equivalent fraction 3/4, then convert it to 75/100.
2. **72 coins** Divide 48 by 6 to get 8 coins per level. Multiply 8 by 9 to get 72 coins.

CHALLENGE

6 songs; 10% of the playlist

For the challenge, 2/5 of 60 is 24 pop songs, and 25% of 24 is 6 duets. Accept equivalent money and percent notation, such as 60 cents and 62.5 percent.