

Rates Per One

Find and name unit rates in real situations.

GRADE 6 • NY-6.RP.2

NY-6.RP.2 "Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$ (b not equal to zero), and use rate language in the context of a ratio relationship."

NAME _____

DATE _____

THE BIG IDEA

A unit rate tells how much of one quantity goes with 1 of another quantity. For a ratio $a:b$, divide a by b to find a/b , then use the word per to name the rate. The second quantity cannot be zero.

WORKED EXAMPLE

A reading challenge logs 28 pages in 4 days. What is the unit rate in pages per day?

1. Write the rate as 28 pages for 4 days.
2. Divide pages by days: $28/4 = 7$.
3. Name the rate: 7 pages per day.

Answer: 7 pages per day

PRACTICE 6 problems

- 1** A recipe uses 15 strawberries for 5 smoothies. What is the unit rate in strawberries per smoothie?

ANSWER _____

- 2** A runner covers 25 meters in 5 seconds. What is the unit rate in meters per second?

ANSWER _____

- 3** The ratio of red beads to blue beads is 18:3. What is the unit rate in red beads per blue bead?

ANSWER _____

- 4** A music app charges \$18 for 9 song downloads. Write the unit rate in dollars per download.

ANSWER _____

- 5** A plant grows 10 centimeters in 2 weeks. What is the unit rate in centimeters per week?

ANSWER _____

- 6** A video game gives 18 coins for 3 completed levels. Maya says the unit rate is 6 coins per level. Is Maya correct? Show a calculation.

ANSWER _____

APPLY IT Show your work

- 1** At a school video club, 36 photos are sorted in 6 minutes. What is the unit rate in photos per minute? At the same rate, how many photos can be sorted in 9 minutes?

WORK SPACE

ANSWER _____

- 2** A game arcade sells a 5-credit pass for \$15. What is the unit rate in dollars per credit? If credits cost the same amount, what is the cost of 8 credits?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Playlist A downloads 18 songs in 2 minutes. Playlist B downloads 24 songs in 3 minutes. Which playlist downloads songs faster? Explain by finding each unit rate.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A recipe uses 15 strawberries for 5 smoothies. What is the unit rate in strawberries per smoothie?	3 strawberries per smoothie
2	A runner covers 25 meters in 5 seconds. What is the unit rate in meters per second?	5 meters per second
3	The ratio of red beads to blue beads is 18:3. What is the unit rate in red beads per blue bead?	6 red beads per blue bead
4	A music app charges \$18 for 9 song downloads. Write the unit rate in dollars per download.	\$2 per download
5	A plant grows 10 centimeters in 2 weeks. What is the unit rate in centimeters per week?	5 centimeters per week
6	A video game gives 18 coins for 3 completed levels. Maya says the unit rate is 6 coins per level. Is Maya correct? Show a calculation.	Yes. $18/3 = 6$ coins per level.

PART 2 • APPLY IT

- 6 photos per minute; 54 photos in 9 minutes** Divide 36 by 6 to get 6 photos per minute. Multiply 6 by 9 to get 54 photos.
- \$3 per credit; \$24 for 8 credits** Divide \$15 by 5 credits to get \$3 per credit. Multiply \$3 by 8 credits to get \$24.

CHALLENGE

Playlist A. Playlist A downloads 9 songs per minute, and Playlist B downloads 8 songs per minute, so Playlist A is faster.

Accept equivalent rate language, such as “3 dollars for each credit.” For the challenge, students should identify Playlist A and support the choice with both unit rates.