

Rate Detectives

Find the amount for one unit.

GRADE 6 • 6.PFA.2.a

6.PFA.2.a "Identify the unit rate of a proportional relationship represented by a table of values, a contextual situation, or a graph."

NAME _____

DATE _____

FIND THE ONE

In a proportional relationship, the unit rate tells how much y there is for 1 x . Divide the y -value by the x -value, then include the units in your answer.

WORKED EXAMPLE

A table shows that 4 movie tickets cost \$36 and 8 movie tickets cost \$72. What is the unit rate?

1. Write cost per ticket = total cost / number of tickets.
2. Divide: $36 / 4 = 9$.
3. Check: $72 / 8 = 9$.

Answer: \$9 per ticket

PRACTICE 6 problems

- 1** A table shows 3 hours for 15 miles and 6 hours for 30 miles. What is the unit rate?

ANSWER _____

- 2** A printer makes 14 posters in 2 minutes at a constant rate. What is the unit rate?

ANSWER _____

- 3** A graph has x as time in minutes and y as pages read. The line passes through (0, 0) and (5, 30). What is the unit rate?

ANSWER _____

- 4** A table shows that 7 tickets cost \$21 and 10 tickets cost \$30. What is the unit rate?

ANSWER _____

- 5** A table shows that $\frac{1}{2}$ pound of trail mix costs \$5 and $\frac{3}{2}$ pounds costs \$15. What is the unit rate?

ANSWER _____

- 6** A graph has x as hours and y as points earned. The line passes through (0, 0) and (12, 18). What is the unit rate?

ANSWER _____

APPLY IT Show your work

- 1** At a school fair, 5 game tickets cost \$35. The cost is proportional to the number of tickets. What is the unit rate?

WORK SPACE

ANSWER _____

- 2** Maya prints 33 stickers on 3 sheets. She prints the same number of stickers on each sheet. What is the unit rate?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two music apps charge a proportional monthly cost. App A charges \$15 for 6 months and \$25 for 10 months. App B charges \$7 for 3 months and \$28 for 12 months. Which app has the greater unit rate, and explain how you know.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A table shows 3 hours for 15 miles and 6 hours for 30 miles. What is the unit rate?	5 miles per hour
2	A printer makes 14 posters in 2 minutes at a constant rate. What is the unit rate?	7 posters per minute
3	A graph has x as time in minutes and y as pages read. The line passes through (0, 0) and (5, 30). What is the unit rate?	6 pages per minute
4	A table shows that 7 tickets cost \$21 and 10 tickets cost \$30. What is the unit rate?	\$3 per ticket
5	A table shows that $\frac{1}{2}$ pound of trail mix costs \$5 and $\frac{3}{2}$ pounds costs \$15. What is the unit rate?	\$10 per pound
6	A graph has x as hours and y as points earned. The line passes through (0, 0) and (12, 18). What is the unit rate?	$\frac{3}{2}$ points per hour

PART 2 • APPLY IT

- \$7 per ticket** Divide the total cost by the number of tickets: $35 \div 5 = 7$. The unit rate is \$7 for 1 ticket.
- 11 stickers per sheet** Divide the number of stickers by the number of sheets: $33 \div 3 = 11$. The unit rate is 11 stickers for each sheet.

CHALLENGE

App A has the greater unit rate. App A costs $\frac{15}{6} = \frac{5}{2}$ dollars per month, and App B costs $\frac{7}{3}$ dollars per month. Since $\frac{5}{2} = \frac{15}{6}$ and $\frac{7}{3} = \frac{14}{6}$, App A costs more per month.

Accept equivalent unit-rate forms, such as 1.5 points per hour for $\frac{3}{2}$ points per hour. Require students to include appropriate units.