Name & Surname: _____ Class: _____ Date: _____

Unit Rates in Action

Pricing and speed made simple

About 45 minutes Level ★★★☆☆



Unit Rates Explained

A **rate** compares two different units, like miles and hours. A **unit rate** shows how much for 1 unit, using the word **per**.

- Write the rate as a fraction.
- Divide to make the bottom number 1.
- Use the unit rate to find new totals by multiplying.

TASK A

/2

Study each example, then try the matching problem the same way.

WORKED EXAMPLE

A car drives 150 miles in 3 hours. Find the unit rate in miles per hour.

1. Write 150 miles / 3 hours
2. Divide: 150 ÷ 3 = 50
3. Unit rate is 50 miles per hour

Answer: 50 miles per hour

YOUR TURN

A car drives 120 miles in 3 hours. Find the unit rate in miles per hour.

Answer: _____

WORKED EXAMPLE

6 apples cost $3.00. What is the price per apple?

1. Write $3.00 / 6 apples
2. Divide: 3 ÷ 6 = 0.50
3. Unit price is $0.50 per apple

Answer: $0.50 per apple

YOUR TURN

10 pencils cost $5.00. What is the price per pencil?

Answer: _____

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Find Unit Rates

Practice finding unit rates from rates.

Key words

rate: comparison of two different units by division

per: for each one

constant speed: same miles per hour the whole time

unit rate: amount for 1 of something

unit price: cost for 1 item or 1 ounce

TASK B

/12

Find the unit rate for each problem. Include the units.

WARM UP

1. A car travels 100 miles in 2 hours. What is the **unit rate** in miles per hour?

   Answer: _____

2. A pack with 4 burgers costs $12.00. What is the **unit price** per burger?

   Answer: _____

3. A student reads 60 words in 2 minutes. What is the **rate** per minute?

   Answer: _____

4. A shop makes 176 mugs in 8 hours. How many mugs **per** hour is that?

   Answer: _____

PRACTICE

5. 10 pounds of potatoes cost $5.00. What is the **unit price** per pound?

   Answer: _____

6. A workout burns 300 calories in 30 minutes. How many calories **per** minute is that?

   Answer: _____

7. A runner does 12 laps in 30 minutes. How many laps **per** minute is that?

   Answer: _____

8. A runner takes 48 minutes to run 6 miles. What is the **pace** in minutes per mile?

   Answer: _____

PROBLEM SOLVING

9. A 12-pack of sparkling water costs $8.99. What is the **unit price** per can to the nearest cent?

   Answer: _____

10. Student A says 70 students in 5 classes is 12 students **per** class. Explain how you know Student A is wrong.

    Answer: _____

11. Two cereals cost $3.00 for 18 ounces and $4.00 for 24 ounces. Which is the **better buy**? Explain how you know.

    Answer: _____

12. A car travels 372 miles on 12 gallons of gas. What is the **fuel** use in miles per gallon?

    Answer: _____

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Use Unit Rates

Use unit rates to solve pricing and speed problems.

TASK C

/12

First find the unit rate, then multiply to solve. Show your work.

WARM UP

1. Apples cost $0.60 each. How much do 5 **apples** cost?

   Answer: _____

2. A car drives 50 miles **per** hour. How far does it go in 4 hours?

   Answer: _____

3. There are 14 students **per** class. How many students in 3 classes?

   Answer: _____

4. Potatoes cost $1.10 **per** pound. How much do 2 pounds cost?

   Answer: _____

PRACTICE

5. It took 7 hours to mow 4 lawns. At what **rate** were lawns mowed in lawns per hour?

   Answer: _____

6. At the same **mowing** rate, how many lawns could be mowed in 35 hours?

   Answer: _____

7. A worker works 60 hours every 3 weeks. How many **hours** will the worker do in 12 weeks at that rate?

   Answer: _____

8. A car drives 300 miles on 12 gallons of gas. What is the **mileage** in miles per gallon?

   Answer: _____

PROBLEM SOLVING

9. At 25 miles **per** gallon, how many gallons are needed for a 1,300-mile trip?

   Answer: _____

10. A 5-pound bag of rice costs $6.25. What is the **unit price** per pound?

    Answer: _____

11. An 8-pound bag of rice costs $9.20. Is it a **better buy** than the 5-pound bag? Explain how you know.

    Answer: _____

12. A runner takes 48 minutes for 6 miles. How long for 10 miles at the same **pace**? Explain how you know.

    Answer: _____

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Remember Rate Words

Match each rate word to its meaning.

TASK D

Cut out the cards. Match each word to its meaning.

Cut out the cards.

 **constant speed**	**unit price**	 **unit rate**	same miles per hour the whole time
proportion	**per**	cost for 1 item or 1 ounce	two equal rates that scale together
 **rate**	comparison of two different units by division	amount for 1 of something, like miles per hour	for each one

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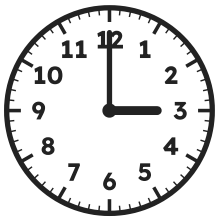
Clocks and Matches

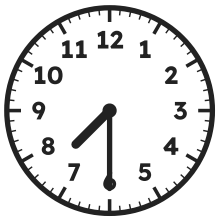
Read clock times and match rates to unit rates.

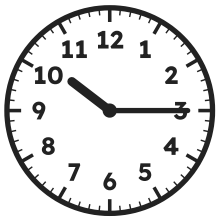
TASK E

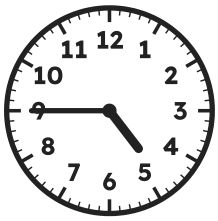
/4

Read each clock and write the time below it.

1. 

2. 

3. 

4. 

TASK F

Example done for you

/4

Match each rate to its unit rate. Write the number in the circle.

1	70 students in 5 classes	◯	$0.60 per apple
2	120 miles in 3 hours	◯	10 calories per minute
3	$1.80 for 3 apples	1	14 students per class
4	176 mugs in 8 hours	◯	40 miles per hour
5	300 calories in 30 minutes	◯	22 mugs per hour

How did I do?

Circle a face for each line.

I can find a unit rate. ☹ 😐 ☺

I can compare unit prices. ☹ 😐 ☺

I can use constant speed to solve problems. ☹ 😐 ☺

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Answer sheet: Unit Rates in Action

Task A

1. 40 miles per hour
2. $0.50 per pencil

Task B

1. 50 miles per hour
2. $3 per burger
3. 30 words per minute
4. 22 mugs per hour
5. $0.50 per pound
6. 10 calories per minute
7. 0.4 laps per minute
8. 8 minutes per mile
9. $0.75 per can
10. 70 ÷ 5 = 14, so the unit rate is 14 students per class, not 12.
11. Neither, they are the same at about $0.17 per ounce.
12. 31 miles per gallon

Task C

1. $3.00
2. 200 miles
3. 42 students
4. $2.20
5. $\frac{4}{7}$ lawns per hour, about 0.57 lawns per hour
6. 20 lawns
7. 240 hours
8. 25 miles per gallon
9. 52 gallons
10. $1.25 per pound
11. The 8-pound bag is better at $1.15 per pound vs $1.25 per pound.
12. 80 minutes, because 48 ÷ 6 = 8 minutes per mile and 8 × 10 = 80.

Task D

rate = comparison of two different units by division
unit rate = amount for 1 of something, like miles per hour
unit price = cost for 1 item or 1 ounce
per = for each one
constant speed = same miles per hour the whole time
proportion = two equal rates that scale together

Task E

1. 3:00 (3 o'clock)
2. 7:30 (half past 7)
3. 10:15 (quarter past 10)
4. 4:45 (quarter to 5)

Task F

1. 70 students in 5 classes → 14 students per class
2. 120 miles in 3 hours → 40 miles per hour
3. $1.80 for 3 apples → $0.60 per apple
4. 176 mugs in 8 hours → 22 mugs per hour
5. 300 calories in 30 minutes → 10 calories per minute

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