

Grade 7 - Unit Rates with Fractions - Test

Common Core 7.RP.A.1 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This 45-minute test checks unit rates when the quantities are fractions, including speeds, prices, and comparing rates (Common Core 7.RP.A.1). It has 9 questions worth 20 points in all. Show your work, because most questions give partial credit for correct steps.

About this test

- Grade: Grade 7
- Chapter: Unit Rates with Fractions
- Standards: 7.RP.A.1
- Time: 45 minutes
- Total: 20 points

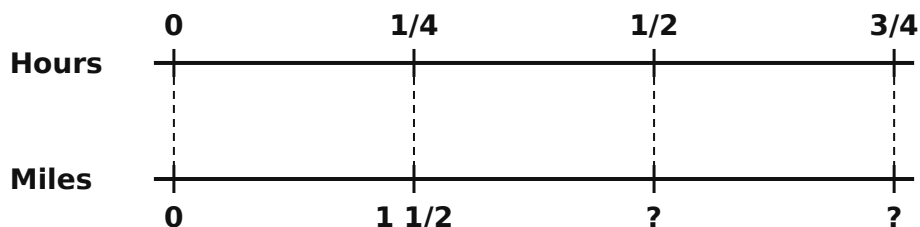
Question 1 - Walking rate [2 pts]

Diego walks $\frac{3}{4}$ mile in $\frac{1}{3}$ hour. Find his speed in miles per hour.

Question 2 - Better price [2 pts]

Pack A holds 18 pencils and costs \$4.50. Pack B holds 30 pencils and costs \$7.20. Find each unit price in dollars per pencil. Tell which pack is the better buy.

Question 3 - Double number line [2 pts]



A drone flies at a steady speed.

- Find the speed of the drone in miles per hour. (1 point)
- Find the distance the drone flies in $2\frac{1}{2}$ hours. (1 point)

Question 4 - Hours per page [2 pts]

Ethan reads $\frac{2}{3}$ of a chapter in $\frac{1}{2}$ hour. Find the number of hours he needs for one whole chapter.

Question 5 - Complex fraction [2 pts]

Simplify the complex fraction $\frac{\frac{3}{4}}{\frac{5}{6}}$ and explain what it means as a rate if the numerator is cups of flour and the denominator is batches.

Question 6 - Complete the table [2 pts]

Hours	$\frac{1}{2}$	1	$2\frac{1}{2}$
Dollars	6		

Pay at a car wash.

Complete the table so that the pay is proportional to the time. Show the unit rate.

Question 7 - Compare speeds [2 pts]

A turtle goes $\frac{3}{8}$ foot in $\frac{1}{4}$ minute. A lizard goes $\frac{5}{12}$ foot in $\frac{1}{3}$ minute. Find which animal is faster and by how much.

Question 8 - Trip average [3 pts]

Priya bikes 6 miles in $\frac{1}{2}$ hour. She rests, then bikes $4\frac{1}{2}$ miles in $\frac{3}{4}$ hour. Find (a) her speed in each part and (b) her average speed for the 2 parts together.

Question 9 - Faucet [3 pts]

Gallons	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$
Minutes	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

A faucet fills $\frac{1}{3}$ gallon every $\frac{1}{4}$ minute.

- Find the number of gallons per minute. (1 point)
- At this rate, find how many gallons flow in 6 minutes. (1 point)
- At this rate, find how many minutes it takes to fill a 20-gallon tub. (1 point)