

Fractions, Decimals and Rational Number Word Problems

Grade 7 math · Test · Standards: 7.NS.A.2d, 7.NS.A.3

Name: _____ Date: _____ Class: _____

This test covers decimal forms of rational numbers and the four operations with negative fractions and decimals. Work in order, show every step, and give units in word problems. Calculators are not allowed. Allow about 45 minutes for all 8 questions.

Standards: 7.NS.A.2d, 7.NS.A.3 · **Level:** Grade 7

Time: 45 minutes · 8 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Fractions to Decimals (2 points)

- a. Write $\frac{13}{16}$ as a decimal. (1 point)
- b. Write $\frac{8}{15}$ as a decimal using bar notation. (1 point)

Question 2 Terminate or Repeat (2 points)

Decide whether each decimal terminates or repeats. Justify using the denominator.

- a. $\frac{27}{60}$ (1 point)
- b. $\frac{11}{18}$ (1 point)

Question 3 Mixed Forms Arithmetic (2 points)

Evaluate.

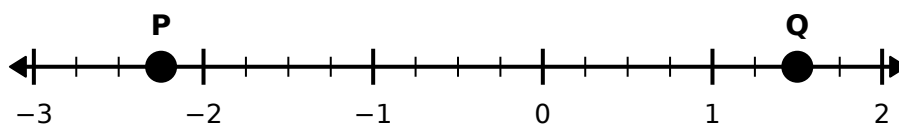
- a. $-5\frac{1}{4} + 3.8$ (1 point)
- b. $-0.9 \times (-\frac{4}{5})$ (1 point)

Question 4 Order of Operations (2 points)

Evaluate $2.25 + (-\frac{3}{8}) \div (-1.5)$. Show each step.

Question 5 Distance on the Number Line (3 points)

Points P and Q are shown.



Points P and Q.

- Find the distance from P to Q. (1 point)
- Find the coordinate of the point exactly halfway between P and Q, and write it as a fraction. (2 points)

Question 6 Freezer Power Outage (3 points)

A freezer holds -4.5°F . During a power outage it warms 2.75°F each hour for 3 hours. After power returns it cools $1\frac{1}{4}^{\circ}\text{F}$ each hour for 2 hours.

- Find the temperature after the 3 hours of warming. (1 point)
- Find the final temperature. (1 point)
- Find the net change in temperature over the 5 hours. (1 point)

Question 7 Eleven and a Repeating Pattern (3 points)

- Use long division to show that $\frac{5}{11}$ is a repeating decimal. (2 points)
- What is the 20th digit after the decimal point? (1 point)

Question 8 Robotics Club Budget (3 points)

The robotics club account record is shown.

Item	Amount
Starting balance	-\$18.40
Fundraiser deposit	+\$75.00
4 motors at \$9.35 each	subtract
Kit	1/4 of balance

Robotics club account record.

- Find the balance after the fundraiser deposit. (1 point)
- Find the balance after buying the motors. (1 point)
- The kit costs one fourth of the balance after the motors. Find the final balance. (1 point)