

Fractions, Decimals and Rational Number Word Problems

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

Name: _____ Date: _____ Class: _____

These problems build the two skills in standards 7.NS.A.2d and 7.NS.A.3. First, long division turns fractions into decimals that stop or repeat. Next, the four operations with negative fractions and decimals are used in everyday situations. Problems climb from simple conversions to multi-step situations. Show every remainder in long division, keep the signs in view, and estimate before the final calculation.

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

Problem 1 Terminating Fraction by Long Division (easy)

Use long division to write $\frac{7}{8}$ as a decimal.

Problem 2 Convert a Fraction Over 25 (easy)

Write $\frac{11}{25}$ as a decimal.

Problem 3 A Repeating Ninth (easy)

Write $\frac{5}{9}$ as a decimal and use bar notation.

Problem 4 Twelfths as Decimals (medium)

Write $\frac{7}{12}$ as a decimal. Show where the repeating block starts.

Problem 5 Predict the Decimal Type (medium)

Without dividing, decide whether each decimal terminates or repeats.

- a. $\frac{9}{40}$
- b. $\frac{5}{18}$
- c. $\frac{14}{35}$
- d. $\frac{13}{22}$

Problem 6 Mixed Number to Decimal (medium)

Write $2\frac{3}{11}$ as a decimal.

Problem 7 Fraction Versus Decimal (medium)

Which is greater, $\frac{5}{7}$ or 0.7? Mark both numbers on the number line.



Number line from 0.6 to 0.8.

Problem 8 Mixed Signs, One Sum (medium)

Evaluate $-3.4 + 5\frac{3}{4}$.

Problem 9 Product of Two Negatives (medium)

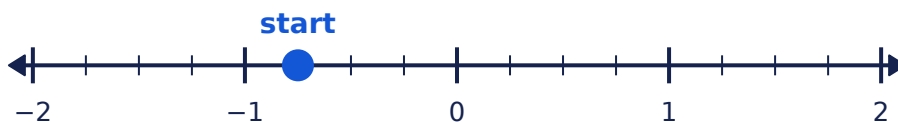
Evaluate $-2\frac{1}{2} \times (-1.6)$.

Problem 10 Dividing by a Negative Fraction (medium)

Evaluate $-7.2 \div (-\frac{3}{5})$.

Problem 11 Subtracting a Negative (medium)

Evaluate $-\frac{3}{4} - (-1.25)$. Use the number line to check.



Start at -0.75 .

Problem 12 Three Terms with Mixed Forms (medium)

Evaluate $-4.5 + 2\frac{1}{4} - (-0.8)$.

Problem 13 Length of the Repeating Block (hard)

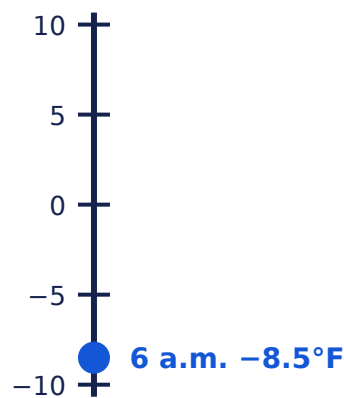
Divide 1 by 7 using long division. How many digits are in the repeating block, and what is the 20th digit after the decimal point?

Problem 14 Nested Operations (hard)

Evaluate $(-\frac{2}{3} + 0.5) \div (-\frac{1}{4})$.

Problem 15 Morning Temperature Swings (medium)

At 6:00 a.m. the temperature was -8.5°F . By noon it had risen 17.75°F . By 6:00 p.m. it had fallen 5.2°F . Find the temperature at 6:00 p.m.



Reading at 6:00 a.m.

Problem 16 Overdrawn Account (medium)

Dev's account shows $-\$23.40$. He deposits $\$60$ and then pays three bills of $\$12.85$ each. What is the new balance?

Problem 17 Rice for the Food Truck (hard)

A food truck has $12\frac{3}{4}$ pounds of rice. Each serving uses 0.375 pound. How many servings can be made?

Problem 18 Drone Flight Height (hard)

A drone hovers at 45 feet. It descends at 2.75 feet per second for 8 seconds, then climbs at $1\frac{1}{2}$ feet per second for 6 seconds. How high is it at the end?

Problem 19 Net Yardage per Play (hard)

Five plays gained or lost these yards: -3.5 , $+8.25$, -2.75 , $+11$ and -0.5 . Find the net yardage and the mean yardage per play.

Play	1	2	3	4	5
Yards	-3.5	$+8.25$	-2.75	$+11$	-0.5

Yardage for five plays.

Problem 20 Splitting the Tab (hard)

Six friends split a \$86.50 restaurant bill equally. Write each share as a decimal using bar notation, round it to the nearest cent, and find how much too much the group pays in total.