

Grade 7 · Rational Numbers: Decimals, Fractions and Word Problems · Worksheet

Common Core 7.NS.A.2d, 7.NS.A.3 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These 20 problems practice standards 7.NS.A.2d and 7.NS.A.3: writing rational numbers as terminating or repeating decimals by long division, and solving real-world problems that use all four operations with fractions, decimals and negative numbers. The last seven are multi-step problems about temperature, money, elevation, water, and stock prices.

Grade 7 Common Core: 7.NS.A.2d · 7.NS.A.3

Problem 1: Fractions to decimals

Use long division to write each fraction as a decimal.

- a. $\frac{3}{25}$
- b. $\frac{7}{8}$
- c. $\frac{9}{20}$

Problem 2: Long division to decimals

Use long division to write each fraction as a decimal.

- a. $\frac{9}{25}$
- b. $\frac{11}{16}$
- c. $\frac{13}{40}$

Problem 3: Repeating decimals

Use long division to write $\frac{2}{3}$ and $\frac{5}{6}$ as decimals. Use a bar to show the repeating digits.

Problem 4: Repeating digits

Use long division to write each fraction as a decimal. Use a bar to show the repeating digits.

- a. $\frac{5}{9}$
- b. $\frac{7}{12}$
- c. $\frac{4}{11}$

Problem 5: Terminate or repeat

Without a calculator, decide whether each fraction is a terminating or a repeating decimal. Write the decimal.

- a. $\frac{7}{20}$
- b. $\frac{4}{9}$
- c. $\frac{11}{12}$
- d. $\frac{9}{16}$

Problem 6: Mixed numbers

Write each rational number as a decimal.

- a. $2\frac{3}{8}$
- b. $-3\frac{5}{6}$
- c. $1\frac{7}{20}$

Problem 7: Negative fractions

Write each number as a decimal.

- a. $-\frac{7}{11}$
- b. $-\frac{13}{8}$

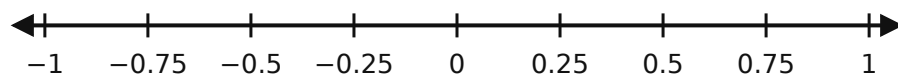
Problem 8: Add and subtract decimals

Evaluate.

- a. $-6.4 + 9.75$
- b. $2.8 - (-4.15)$
- c. $-7.25 - 3.6$
- d. $-0.75 - (-1.5)$

Problem 9: Order on a number line

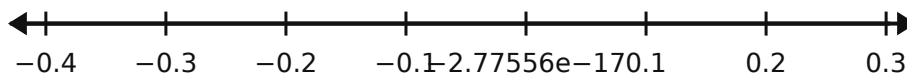
Write the numbers in order from least to greatest: 0.6 , $-\frac{3}{4}$, $\frac{5}{8}$, -0.7 .



Use the number line to place the values.

Problem 10: Ordering mixed forms

Write the numbers in order from least to greatest: $\frac{1}{4}$, -0.3 , 0.2 , $-\frac{1}{3}$, -0.35 .



A number line to use.

Problem 11: Four operations

Evaluate.

- a. $-3.5 + 2.25$
- b. $\frac{3}{4} - (-\frac{1}{2})$
- c. $(-\frac{2}{3})(\frac{9}{10})$
- d. $(-\frac{5}{6}) \div (-\frac{5}{12})$

Problem 12: Add and subtract fractions

Evaluate. Write each answer as a fraction or mixed number in lowest terms.

- a. $-\frac{2}{5} + \frac{3}{4}$
- b. $\frac{5}{6} - (-\frac{1}{3})$
- c. $-\frac{3}{8} - \frac{1}{2}$
- d. $-1\frac{1}{2} + 2\frac{1}{4}$

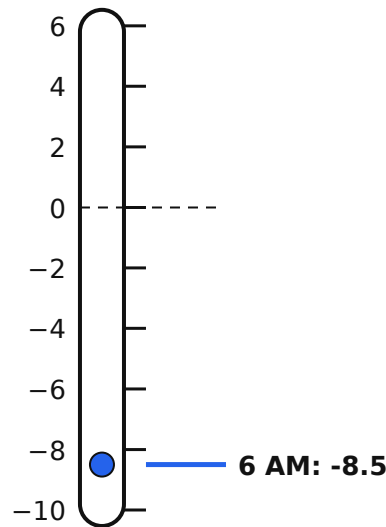
Problem 13: Multiply and divide

Evaluate.

- a. $(-1.5)(-4.2)$
- b. $(-\frac{3}{5})(\frac{10}{9})$
- c. $(-12.6) \div 3$
- d. $\frac{7}{8} \div (-\frac{7}{4})$

Problem 14: Temperature rise

At 6 AM the temperature was -8.5°F . It rose 3.25°F each hour for 4 hours. Find the temperature at 10 AM.



Temperature at 6 AM, in degrees F.

Problem 15: Account balance

Jamal's account starts at \$42.50. He spends \$18.75, deposits \$25.20, then spends \$31.95. Find his final balance.

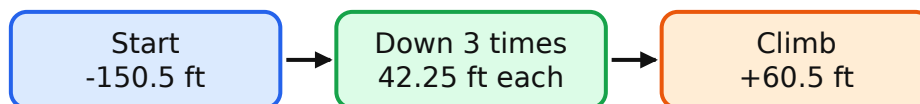
Transaction	Amount
Starting balance	\$42.50
Spend	-\$18.75
Deposit	+\$25.20
Spend	-\$31.95

Jamal's transactions.

Problem 16: Death Valley hike

Ethan starts a hike at an elevation of -150.5 feet, which is below sea level. He walks down 3 steep sections, each 42.25 feet, and then climbs up 60.5 feet.

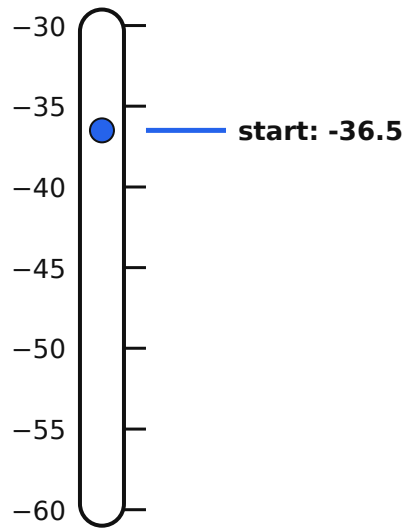
- Find the total change in elevation for the 3 steep sections.
- Find his elevation after the 3 sections.
- Find his final elevation after the climb.



The three parts of the hike.

Problem 17: Diver depth

A diver is at $-36\frac{1}{2}$ ft. She descends $14\frac{3}{4}$ ft and then rises 8.25 ft. Find her final depth.

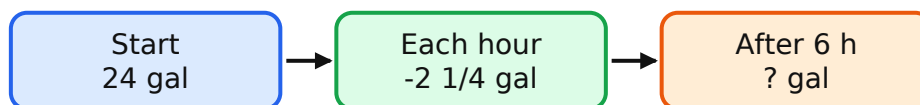


Starting depth in feet.

Problem 18: Draining tank

A water tank holds 24 gallons. A leak lowers the amount of water by $2\frac{1}{4}$ gallons each hour, and the change is $-2\frac{1}{4}$ gallons per hour.

- Find the total change in the amount of water after 6 hours.
- Find the amount of water left after 6 hours.
- Find how many hours it takes for the tank to empty. Write the answer as a decimal with a bar.

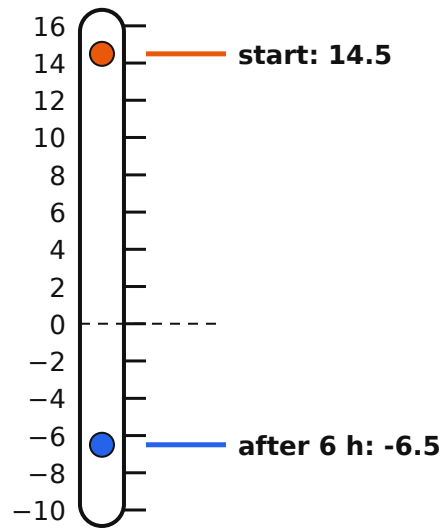


The tank loses water at a steady rate.

Problem 19: Rate of change

The temperature dropped from 14.5°F to -6.5°F in 6 hours at a constant rate.

- Find the total change.
- Find the change per hour.
- Find the temperature after 4 hours.

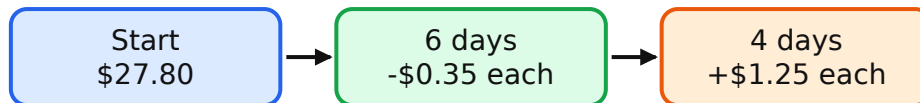


Temperature in degrees F.

Problem 20: Share price

A share of a company's stock costs \$27.80. Over the next 6 days it changes by $-\$0.35$ each day. Over the following 4 days it changes by $+\$1.25$ each day.

- Find the price after the 6 days.
- Find the price after the following 4 days.
- Find the net change in the price over all 10 days.



The two stretches of price changes.