

Grade 7 - Adding and Subtracting Rational Numbers - Answer Key

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

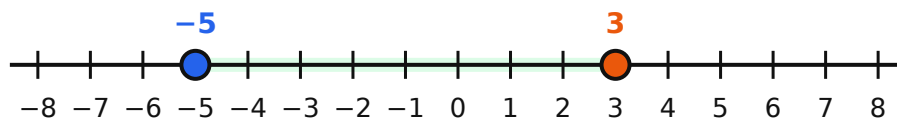
Use this answer key to check your work on the adding rational numbers worksheet. Every solution shows the steps, and the final answer appears in bold. If your answer is different, compare each step and look for the first place where the work changes.

Grade 7 · Common Core State Standards: **7.NS.A.1**

Exercise 1 - Add with opposite signs

$$-5 + 8 = 3$$

3



The jump ends at 3.

Exercise 2 - Positive plus negative

$$7 + (-12) = -5$$

-5

Exercise 3 - Two negatives

$$-6 + (-9) = -15$$

-15

Exercise 4 - Subtract to a negative

Rewrite as adding the opposite: $4 + (-9)$

$$= -5$$

-5

Exercise 5 - Negative minus positive

Rewrite as adding the opposite: $-3 + (-8)$

$$= -11$$

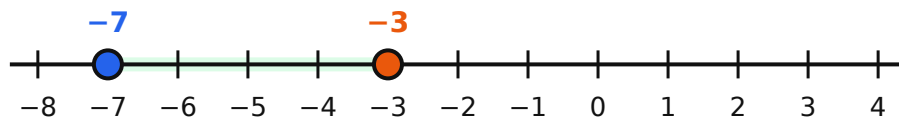
-11

Exercise 6 - Subtract a negative

Rewrite as adding the opposite: $-7 + 4$

$$= -3$$

-3



Subtracting -4 moves 4 units right.

Exercise 7 - Opposites

The two numbers are opposites, the same distance from 0 on opposite sides.

$$-\frac{3}{4} + \frac{3}{4} = 0$$

0; a number plus its opposite is 0

Exercise 8 - Distance on a number line

$$|7 - (-4)| = |7 + 4| = 11$$

11 units

Exercise 9 - Add decimals

The signs differ: $8.2 - 3.6 = 4.6$. The positive number is larger in size.

4.6

Exercise 10 - Subtract decimals

$-1.75 - 2.5 = -1.75 + (-2.5)$. The signs are the same: $1.75 + 2.5 = 4.25$.

-4.25

Exercise 11 - Unlike fractions

Use a common denominator 6.

$$-\frac{1}{2} + \frac{1}{3} = -\frac{1}{6}$$

$$-\frac{1}{6}$$

Exercise 12 - Subtract a negative fraction

Use a common denominator 12.

$$\frac{2}{3} - (-\frac{1}{4}) = \frac{11}{12}$$

$$\frac{11}{12}$$

Exercise 13 - Mixed numbers

Use a common denominator 4.

$$-2\frac{1}{2} + 4\frac{3}{4} = 2\frac{1}{4}$$

$$2\frac{1}{4}$$

Exercise 14 - Negative fractions

Use a common denominator 6.

$$-\frac{5}{6} - \frac{1}{2} = -1\frac{1}{3}$$

$$-1\frac{1}{3}$$

Exercise 15 - Temperature rise

$$-8 + 15 = 7$$

7°F

Exercise 16 - Overdrawn account

$$42.50 - 65.75 = -23.25$$

-\$23.25 (overdrawn by \$23.25)

Step	Balance
Start	\$42.50
Check	-\$65.75
New balance	-\$23.25

Balance after the check.

Exercise 17 - Submarine

$$-120 + 45 = -75$$

$$-75 - 80 = -155$$

-155 feet

Exercise 18 - Football yardage

$$12 - 7 - 15 + 9 = -1$$

a loss of 1 yard (-1)

Exercise 19 - Diver and bird

$$|62.25 - (-35.5)| = 62.25 + 35.5 = 97.75$$

97.75 feet

Exercise 20 - Account balance

$$-18.40 + 50 = 31.60$$

$$31.60 - 22.35 = 9.25$$

$$9.25 - 9.80 = -0.55$$

-\$0.55

Step	Balance
Start	-\$18.40
Deposit \$50	\$31.60
Spend \$22.35	\$9.25
Spend \$9.80	-\$0.55

Balance after each step.