

Name:

Class: 8

Date:

Subject: Maths

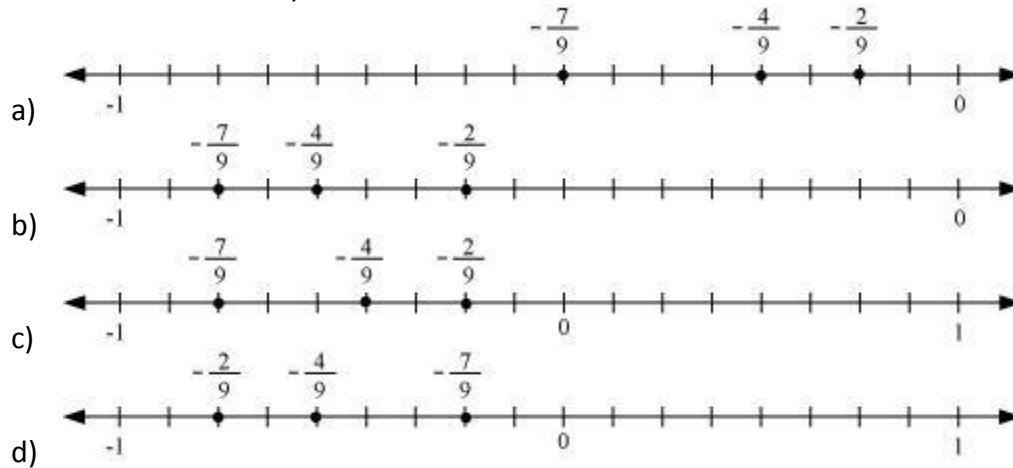
Worksheet 1

Topic: Rational numbers

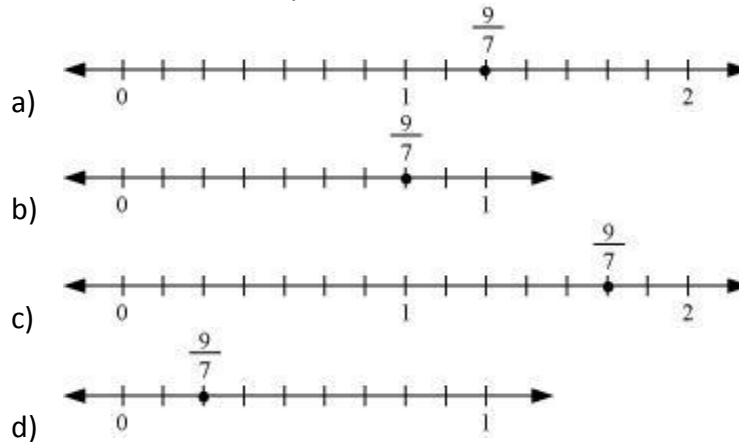
- Which of the following statements is correct?
 - The additive inverse of number 0 does not exist.
 - The additive inverse of number 1 does not exist.
 - The multiplicative inverse of number 0 does not exist.
 - The multiplicative inverse of number 1 does not exist.
- What is the multiplicative inverse of $2\frac{1}{5}$?
 - $-2\frac{1}{5}$
 - $5\frac{1}{2}$
 - $\frac{5}{11}$
 - $-\frac{5}{11}$
- What is the additive inverse of $-\frac{6}{9}$?
 - $\frac{6}{9}$
 - $\frac{9}{6}$
 - $-\frac{6}{9}$
 - $-\frac{9}{6}$
- Which property is illustrated by the relation $\frac{p}{q} + 0 = \frac{p}{q}$, where p and $q \neq 0$ are integers?
 - Commutative property of rational numbers under addition
 - Associative property of rational numbers under addition
 - Multiplicative identity of rational numbers
 - Additive identity of rational numbers
- Which of the following relations illustrates the associative property of rational numbers under addition?
 - $\frac{1}{2} + \frac{-7}{5} = -\frac{7}{5} + \frac{1}{2}$
 - $\frac{1}{3} + \left(\frac{2}{5} + \frac{-11}{8}\right) = \left(\frac{1}{3} + \frac{2}{5}\right) + \frac{-11}{8}$
 - $-\frac{6}{7} + 0 = -\frac{6}{7}$
 - $\left(-\frac{8}{9}\right) + \frac{8}{9} = 0$
- What is the product of the additive inverse of -0.8 and the multiplicative inverse of 0.2 ?
 - 4
 - 5
 - $\frac{1}{4}$
 - $-\frac{1}{5}$
- The expression $\left(\frac{6}{11} \times \frac{3}{2}\right) + \left(-4 \times \frac{6}{11}\right)$ is an equivalent form of which of the following expressions?
 - $\frac{3}{2} \times \left(\frac{6}{11} - 4\right)$
 - $\left(-4 \times \frac{3}{2}\right) \times \frac{6}{11}$
 - $\frac{6}{11} \times \left(\frac{3}{2} + 4\right)$
 - $\frac{6}{11} \times \left(\frac{3}{2} - 4\right)$

8. Rational numbers are closed under addition because
- Any two rational numbers can be added in any order
 - The sum of any two rational numbers is again a rational number
 - The sum of any three rational numbers is independent of the way the three numbers are grouped together
 - The sum of 0 and any rational number is the same rational number

9. Which number line correctly shows the rational numbers $-\frac{2}{9}$, $-\frac{4}{9}$, and $-\frac{7}{9}$?



10. Which number line correctly shows the rational number $\frac{9}{7}$?



11. Some statements are given as:

- There are finite integers between any two different integers.
- There are finite rational numbers between any two different rational numbers.
- There are infinite rational numbers between any two different integers.
- There are infinite integers between any two different rational numbers.

Which two given statements are correct?

- a) I and III b) II and IV c) I and IV

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Worksheet 2

Topic: Rational numbers

I. Consider the given statements.

1. Addition and multiplication are commutative for rational numbers.
2. Subtraction and division are commutative for rational numbers.
3. Addition and multiplication are associative for rational numbers.
4. Subtraction and division are associative for rational numbers.

Which two given statements are **correct**?

- a) 1 and 4 b) 2 and 4 c) 2 and 3 d) 1 and 3

2. If a , b , and c are rational numbers, then which property is shown by the expression $a \times (b + c) = a \times b + a \times c$?

- a) Distributive property of multiplication over addition
- b) Associative property of multiplication
- c) Commutative property of addition
- d) Existence of additive inverse

3. What is the product of the multiplicative inverse and the additive inverse of the number $-\frac{3}{2}$?

- a) 1 b) -1 c) $\frac{-2}{3}$ d) $\frac{3}{2}$

4. Which of the following statements is correct?

- a) $\frac{2}{5}$ is the additive inverse of $-\frac{5}{2}$.
- b) The multiplicative inverse of $-\frac{3}{7}$ is $\frac{7}{3}$.
- c) Integers are commutative for subtraction.
- d) Rational numbers are commutative for multiplication.

5. Which of the following statements is correct?

- a) $\frac{2}{5}$ is the additive inverse of $-\frac{5}{2}$.
- b) The multiplicative inverse of $-\frac{3}{7}$ is $\frac{7}{3}$.
- c) Integers are commutative for subtraction.
- d) Rational numbers are commutative for multiplication.

6. What is the additive inverse of the multiplicative inverse of the number $-3\frac{4}{7}$?

- a) $-\frac{19}{4}$ b) $-\frac{7}{25}$ c) $\frac{7}{25}$ d) $\frac{19}{4}$

7. What is the multiplicative inverse of $-8\frac{4}{9}$?
- a) $\frac{76}{9}$ b) $\frac{68}{9}$ c) $-\frac{9}{76}$ d) $-\frac{9}{68}$

8. Which expression shows the multiplicative identity of rational numbers?

- a) $a \times 0 = 0 \times a = 0$, where a is a rational number.
 b) $a \times 1 = 1 \times a = a$, where a is a rational number.
 c) $a \times b = b \times a$, where a and b are rational numbers.
 d) $a \times (b \times c) = (a \times b) \times c$, where a , b , and c are rational numbers.

9. Rational numbers are **not** closed under which operation?

- a) Subtraction b) Addition c) Addition d) Division

10. Which rational number has to be multiplied with 64 to get the product $-49\frac{3}{5}$?

11. Using property of multiplication, find the value of the expression $\frac{3}{5} \times \frac{3}{14} \times \frac{15}{2} \times -\frac{7}{9}$.

12. Find the additive inverse of the multiplicative inverse of the expression $\left(-\frac{3}{5}\right) \times (-10)$.

13. How many rational numbers are there between 3 and 4? Write any two of them.

14. Find four rational numbers between $\frac{1}{9}$ and $\frac{1}{3}$ and represent them on the number line.

15. Find five rational numbers between $-\frac{7}{5}$ and $\frac{3}{4}$ and represent them on the number line.

16. Find seven rational numbers between -1 and 1 and represent them on the number line.

17. Are rational numbers closed under division? Give reasons in support of your answer.

18. Some statements are given as:

I. The multiplicative inverse of a negative rational number is negative.

II. The multiplicative inverse of $\frac{1}{y}$ ($y \neq 0$) is $-\frac{1}{y}$.

III. The additive inverse of -1 is 1.

IV. Subtraction is associative for rational numbers.

Which two given statements are **incorrect**?

- a) II and III b) II and IV c) I and III