INDIAN SCHOOL NIZWA - WORKSHEET

Chapter 1 RATIONAL NUMBERS

Name: **Class :VIII Sec:**

Multiple choice questions

1. The multiplicative inverse of $5\frac{1}{4}$.

   A. $-4\frac{1}{5}$ B. $-\frac{21}{4}$ C. $\frac{21}{4}$ D. $\frac{4}{21}$

2. Name the property illustrated $\left(\frac{5}{6}\times\frac{7}{3}\right)\times\frac{5}{9}=\frac{5}{6}\times\left(\frac{7}{3}\times\frac{5}{9}\right)$

   A. Associative property of addition B. Commutative property of multiplication
   C. Closure property D. Associative property of multiplication

3. How many rational numbers are there between any two given rational numbers?

   A. Only one B. Countless C. Only two D. None of these

4. $-(-x)$ is same as

   A. x B. $-x$ C.$-\frac{1}{x}$ D. $\frac{1}{x}$

5. The multiplicative identity for rational numbers is

   A. 2 B. 0 C. 1 D. -1

6. What should be subtracted from −3/4 to get -4?

   A. $\frac{13}{4}$ B. $-\frac{13}{4}$ C. 13 D. $\frac{4}{13}$

7. The additive inverse of the greatest negative integer is _____

   A. -1 B. 100 C.1 D.0

8. Which of the following is the product of (−7/8) and (2/21)?

   A. 12 B. $-\frac{63}{16}$ C. $\frac{-16}{147}$ D.$-\frac{1}{12}$

9. The reciprocal of a positive rational number is

   A. Negative B. Positive C. Zero D. One

10. The sum of additive inverse and multiplicative inverse of 5 is

    A. -5 B. $\frac{1}{5}$ C. $\frac{-48}{5}$ D.$\frac{-24}{5}$

11. Simplify:

    a) $\left(\frac{8}{5}\times\frac{-3}{2}\right)-\left(\frac{-3}{16}\times\frac{-11}{10}\right)$ b) $\frac{2}{5}\div\left(\frac{-4}{5}\times\frac{3}{10}\right)$ c) $\left(\frac{1}{3}\div\frac{1}{2}\right)+\frac{5}{6}$

12. Solve using distributive property: $\frac{-5}{4}\times\frac{2}{7}+\frac{2}{3}-\frac{2}{7}\times\frac{5}{2}$

13. Simplify using appropriate properties.

    a) $\frac{8}{9}\times\frac{4}{5}+\frac{5}{6}-\frac{9}{5}\times\frac{8}{9}$ b) $\left(\frac{-2}{3}\right)\times\frac{3}{5}+\frac{5}{2}-\frac{3}{5}\times\frac{1}{6}$

    c) $\frac{5}{7}+\frac{2}{11}+\frac{8}{7}+\frac{6}{11}$ d)$\frac{3}{11}\times\left(\frac{-5}{6}\right)\times\left(\frac{-22}{9}\right)\times\left(\frac{-9}{5}\right)$

14. The product of two rational numbers is $\frac{15}{56}$. If one of the numbers is $\frac{-5}{48}$, find the other.

15. Name the property under multiplication used in each of the following:

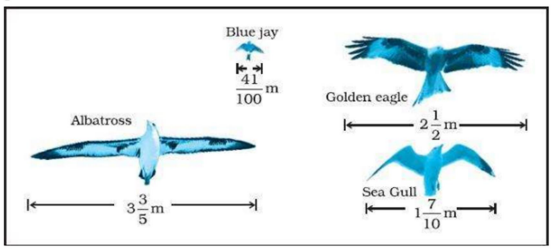
    a) $\left(\frac{-8}{9}\right)\times 1=1\times\left(\frac{-8}{9}\right)=\left(\frac{-8}{9}\right)$ b) $\left(\frac{-21}{23}\right)\times\left(\frac{-3}{7}\right)=\left(\frac{-3}{7}\right)\times\left(\frac{-21}{23}\right)$

    c)$\left(\frac{-17}{25}\right)\times\left(\frac{25}{-17}\right)=1$

16. **Case based question 1:**

    Birds have many physical features, besides wings, that work together to enable them to fly. They need lightweight, streamlined, rigid structures for flight. The shape of a bird's wing is important for producing lift. Larger wings produce greater lift than smaller wings. So, the

smaller-winged birds need to fly faster to maintain the same lift as those with larger wings. The diagram shows the wing spans of four different species of birds.



On the basis of above information, answer the questions

(i) How much longer is the wingspan of an Albatross than the wingspan of a Sea gull?

(ii) How much longer is the wingspan of a Golden eagle than the wingspan of a Blue jay?

17. **Case based question 2:**

Jill is doing a little woodwork for a school project. She had a piece of wood 4 feet long. She cut off a piece that was $2\frac{5}{8}$ feet long.

(i) She needs to determine how long the piece of wood was that she has left in order to see if she has enough to complete her project. How much does she have left?

(ii)If she needs 5 more pieces that are each $\frac{3}{10}$ of a foot long, does she need more wood?

18. Find the value of $\frac{5}{6} \times 1\frac{7}{10} + 2\frac{1}{2} \times \frac{5}{6}$ using suitable property.
19. Name the property used in this calculation: $\frac{41}{100} + 2\frac{1}{2} = \frac{291}{100}$
20. Find the product of : multiplicative inverse of $1\frac{7}{10}$ and additive inverse of $3\frac{1}{11}$
21. Multiply $\frac{4}{7}$ by the reciprocal of $\frac{1}{63}$.
22. If the cost of $4\frac{1}{2}$ litres of milk is $89\frac{1}{2}$, find the cost of 1 litre of milk.
23. Subtract the additive inverse of $\frac{5}{6}$ from the multiplicative inverse of $-\frac{5}{7} \times \frac{14}{15}$
24. Find the rational numbers that are equal to their reciprocals.
25. **Revision**
    1. Add the following: 18.36, 146.3, 0.829 and 5.324
    2. If 163.92 ÷ 24 = 6.83, then value of 1639.2 ÷ 0.24 is_____.
    3. Divide: $5\frac{3}{4} \div 2\frac{7}{8}$
    4. Multiply: 13.01 × 5.12
    5. Simplify: $\frac{-1}{6} \times \frac{4}{-15} \times \frac{-2}{5}$
    6. Subtract $\frac{-4}{15}$ from $\frac{6}{25}$
    7. Find LCM of 24, 21, 36
    8. Find : (– 200) ÷ (– 50) × (– 42) + 34
    9. Find $32 \times (-4) \times (-11) \times (-1)$
    10. Find: $(-850) \div (-10) + 800 - 100 \times 20$