Subject: Mathematics

Class: 7

Topic: Understanding Rational Numbers and Their Properties

Levels: Basic, Intermediate, Advanced

Level: Basic

1. Define a rational number. Is 0 a rational number? (Yes/No) _____

2. Identify the numerator and denominator in the rational number -7/12.

3. Write the rational number whose numerator is (-5) × 4 and denominator is 28 - 3.

4. Express 5 as a rational number with denominator 1: _____

5. Which is greater? 2/3 or 0. Use symbols (? for emphasis): _____

6. Write the additive inverse of 4/9 and -15/7.

7. Represent 3/5 and -3/5 on a rough number line. ?

8. Simplify the rational number 18/45 to its lowest form.

9. True or False: Every fraction is a rational number but every rational number is not a fraction.

10. Find the absolute value of |-11/13|: _____

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Level: Intermediate

1. Express -4/7 as a rational number with numerator 12: _____

2. Compare the rational numbers: -8/5 [?] -7/4 (Use <, > or =).

3. Find the sum: (5/9) + (-11/9). Answer: _____

4. Arjun spent ? 1/4 of his pocket money on a pen and ? 1/2 on a book. Total spent: ? _____

5. Find the product of -3/5 and 4/7: _____

6. Divide 4/9 by -5/12 and write the result in simplest form.

7. Find three rational numbers between 1/3 and 1/2. ?

8. Convert the rational number 7/8 into its decimal form.

9. Write four equivalent rational numbers for -2/5.

10. If x = 1/2 and y = 3/4, verify that x + y = y + x (Commutative Property).

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1. Find the value of (x + y) ÷ (x - y) if x = 2/3 and y = 3/2.

2. The product of two rational numbers is -16/9. If one is -4/3, find the other. ?

3. What should be added to -5/8 to get 5/9? _____

4. Simplify: [(2/3) × (6/5)] + [(1/2) ÷ (1/4)].

5. Find the cost of 3? (9) meters of cloth at ? 25/2 per meter. Total: ? _____

6. A car travels 60 km in 3/2 hours. Find its speed in km/h. ?

7. Verify the Distributive Property: a × (b + c) = (a × b) + (a × c) for a=1/2, b=1/4, c=1/6.

8. Find the multiplicative inverse of [(-2/3) × (5/7)].

9. Insert five rational numbers between -2 and -1. ? ? ? ? ?

10. If the area of a rectangle is 25/4 sq.m and its length is 5/2 m, find its perimeter.