RAMAGYA SCHOOL, NOIDA
IMO OLYMPIAD WORKSHEET
CLASS VIII (2017-18)

(CONCEPT)

1. A number which can be expressed as $\frac{p}{q}$ where p and q are integers then,
   a. q=0 b. q=1 c. $q \neq 0$ d. q≠1
2. Which of the following rational number is positive?
   a. $\frac{-4}{9}$ b. $\frac{4}{9}$ c. $\frac{-4}{9}$ d. $\frac{4}{-9}$
3. In the standard form of rational number, the common factor of numerator and denominator is always
   a. 0 b. 1 c. -1 d. 2
4. The standard form of $\frac{-48}{60}$.
   a. $\frac{48}{60}$ b. $\frac{60}{-48}$ c. $\frac{-4}{5}$ d. $\frac{5}{-4}$
5. If x+0=0+x=x which is rational number, then 0 is
   a. additive identity
   b. additive inverse of x
   c. multiplicative inverse of x
   d. reciprocal of x

(APPLICATION)

6. If $\frac{-5}{7}=\frac{x}{28}$, what is the value of x
   a. 4 b. 20 c. 25 d.40
7. Between any two rational numbers, there lie :
   a) two rational number b) No rational number c) infinite rational numbers d) infinite fractions
8. Addition is associative for
   a) Natural numbers b) Whole Numbers c) Rational Numbers d) All of these
9. Rational numbers are not closed under :
   a) Subtraction b) Division c) Addition d) Multiplication
10. The reciprocal of $\frac{-3}{8}$ X $\frac{-7}{13}$
    a. $\frac{104}{21}$ b. $\frac{-104}{21}$ c. $\frac{21}{104}$ d. $\frac{-21}{104}$
11. The simplified form of $\frac{7}{8} \times \frac{3}{2} \times \frac{4}{7} \times \frac{7}{3}$

a. 0 b. 1 c. $\frac{7}{4}$ d. $\frac{3}{7}$

(VALUE BASED)

12. Father's age is equal to the sum of the ages of his five children. After 15 years, his age will be only half of the sum of the children's ages. How old is the father ?
(A) 42 yrs (B) 43 yrs (C) 44 yrs (D) 45 yrs

13. When a number is divided by 125, the remainder is 82, when the same number is divided by 25, the remainder will be ____.
(A) 8 (B) 9 (C) 6 (D) 7

14. Jiah is building birdhouses. It takes her 3.2 hours to build 4 birdhouses. Which of the following is an equivalent rate ?
(A) 14 hours to build 18 birdhouses (B) 28 hours to build 35 birdhouses
(C) 11 hours to build 8 birdhouses (D) 22 hours to build 28 birdhouses

(**HOTS)**

15. Two flower beds in a park are similar rectangles of same width. The longest side of the large flower bed is 48 cm long, and the longest side of the small flower bed is 16 cm. If L is the area of the large flower bed and S is the area of the small flower bed, which equation is true?
(A) S = L – 16 (B) S = L + 16 (C) $\frac{1}{9}$ S = L (D) $\frac{1}{3}$S = L

16. The numerical expression$\frac{3}{8}+\frac{-5}{7}=\frac{-19}{56}$
a. Rational number are closed under addition
b. Rational number are not closed under addition
c. Rational number are closed under multiplication
d. Rational number are not closed under multiplication.

17. The sum of two rational numbers is (-3/7). If one of the number is (-5/8) find the other.
a. 1 b. $\frac{1}{28}$ c.$\frac{3}{28}$ d.$\frac{-1}{28}$

18. Between any two rational number how many rational number we can find?
a. 2 b. finite c. infinite d. 0

19. What should be subtracted from $\frac{5}{8}$ to get $\frac{-1}{24}$?
a. $\frac{2}{3}$ b. $\frac{3}{2}$ c.$\frac{5}{6}$ d. $\frac{1}{4}$

20. Kartik can throw a ball $50\frac{3}{5}$ m high. Ayan can throw the same ball $48\frac{1}{3}$m high. How much farther can Kartik throw the ball than Ayan?
a. $2\frac{2}{15}$m b. $2\frac{4}{15}$m c. $2\frac{3}{5}$m d.$2\frac{4}{5}$m