221
- 17
204

Rational Numbers

Worksheet

1. (d) $q \neq 0$

2. (b) 1

3. (c) $\frac{(-4)}{5}$

4. (c) $\frac{16}{20}$

5. (c) unlimited

6. (c) positive integer

7. $\frac{(-3)}{8}$ is a rational number ~~becas~~ because it can be expressed in the form of $\frac{a}{b}$ with $a = (-3)$, $b = 8$.

8. right

9. less

10. $\frac{7}{-8} \boxed{<} \frac{8}{9}$

$= \frac{(-7)}{8} \boxed{<} \frac{8}{9}$

11. $\frac{3}{7} \boxed{>} \frac{(-5)}{6}$

12. $\frac{5}{6} \boxed{>} \frac{4}{8}$

LCM of 6, 8 = 24

$\frac{5}{6} = \frac{5 \times 4}{6 \times 4} = \frac{20}{24}$ $\quad \frac{4}{8} = \frac{4 \times 3}{8 \times 3} = \frac{12}{24}$

2 | 6, 8
3, 4

$\frac{20}{24} \boxed{>} \frac{12}{24}$

13. $\frac{(-9)}{7} < \frac{4}{(-7)}$

$\frac{(-9)}{7} < \frac{(-4)}{7}$

Yes, this statement is true.

14. $\frac{8}{8} \boxed{=} \frac{2}{2}$

$1 \boxed{=} 1$

15. 0

16. $\frac{(-3)}{8} \times x = \frac{(-9)}{16}$ Let the no be x.

$x = \frac{(-9)}{16} \div \frac{(-3)}{8}$

$= \frac{(-\cancel{9}^{3})}{\cancel{16}_{2}} \times \frac{(-\cancel{8}^{1})}{\cancel{3}_{1}}$

$= \frac{3}{2} = 1\frac{1}{2}$

17. Cost of $4\frac{1}{2}$ metres of cloth is ₹ $85\frac{1}{2}$.

so, the cost of one metre of cloth = $85\frac{1}{2} \div 4\frac{1}{2}$

$= \frac{\cancel{170}\ 171}{2} \div \frac{9}{2}$

$= \frac{\cancel{171}^{19}}{\cancel{2}_{1}} \times \frac{\cancel{2}^{1}}{\cancel{9}_{1}} =$ ₹19

So, the cost of one metre of cloth is ₹19.

85 × 2 = 170

19 × 9 = 171, −9 / 81

18. total stairs in a stairway = 14

each stair's height = $32\frac{5}{7}$ cm

so, the vertical height of the stairways =

$$32\frac{5}{7} \times \frac{14}{1}$$

$$= \frac{229}{7_1} \times \frac{\cancel{14}^{2}}{1}$$

$$= 458 \text{ cm}$$

So, the vertical height of the stairways is 458 cm.

19. ~~In ascending order~~

$$\frac{(-7)}{10}, \frac{5}{(-8)}, \frac{2}{(-3)}$$

$$\frac{(-7)}{10}, \frac{(-5)}{8}, \frac{(-2)}{3} \qquad \text{LCM} = 120$$

$$\frac{(-7)}{10} = \frac{(-7)\times 12}{10\times 12} = \frac{(-84)}{120}$$

$$\frac{(-5)}{8} = \frac{(-5)\times 15}{8\times 15} = \frac{(-75)}{120}$$

$$\frac{(-2)}{3} = \frac{(-2)\times 40}{3\times 40} = \frac{(-80)}{120}$$

In ascending order → $\frac{(-7)}{10} < \frac{2}{(-3)} < \frac{5}{(-8)}$

20. Sum of two rational numbers be -5.

one of them $= \frac{(-52)}{25}$

Let the other no be x.

other number $= x + \frac{(-52)}{25} = \frac{(-5)}{1}$

$\Rightarrow x = \frac{(-5)}{1} - \frac{(-52)}{25}$

$= \frac{(-5)}{1} + \frac{52}{25}$

$= \frac{(-125)+52}{25} = \frac{(-73)}{25} = -2\frac{23}{25}$

25 | 73 (2
-50
23

So, the other no be $-2\frac{23}{25}$.