

# CHAPTER 1

## RATIONAL NUMBERS

### More Questions for Practice

1. For  $x = \frac{-1}{2}$ ,  $y = \frac{2}{5}$  and  $z = \frac{-3}{2}$ , verify each of the following:

(a)  $x + (-x) = 0$

(b)  $x + y = y + x$

(c)  $x + (y + z) = (x + y) + z$

(d)  $y + 0 = y$

(e)  $(x - y) - z \neq x - (y - z)$ .

2. For  $x = \frac{7}{4}$ ,  $y = \frac{-2}{3}$  and  $z = -1$ , verify each of the following:

(a)  $x \times \left(\frac{1}{x}\right) = 1$

(b)  $x \times z = z \times x$

(c)  $x \times (y \times z) = (x \times y) \times z$

(d)  $x \times (y + z) = (x \times y) + (x \times z)$

(e)  $(x + y) \div z = (x \div z) + (y \div z)$ .

3. Write any three rational numbers between

(a)  $\frac{3}{5}$  and  $\frac{-5}{7}$ .

(b)  $-\frac{1}{4}$  and  $\frac{-15}{6}$ .

4. Check if  $|x + y| = |x| + |y|$  for  $x = \frac{-3}{8}$  and  $y = \frac{2}{7}$ .

5. Simplify:

(a)  $\frac{15}{8} \div \frac{4}{5} \times \frac{2}{5} - \frac{1}{2} \div \frac{3}{4}$

(b)  $1 - \frac{3}{10} \div \frac{2}{5} + \left(\frac{7}{9} \times \frac{2}{7} \div \frac{11}{7}\right)$ .

6. Find:

(a) the additive inverse of  $\left[\left(\frac{-2}{7} + \frac{3}{5}\right) \times \frac{-4}{9}\right]$ , and

(b) the reciprocal of  $\left(3 \div \frac{2}{7}\right)$ .

7. Find the perimeter and the area of a rectangular park of sides  $\frac{195}{8}$  m and  $\frac{72}{5}$  m.

**ANSWERS**

3. (a)  $0, \frac{2}{7}, \frac{3}{7}$  (b)  $-2, -1, -0.5$

4.  $|x + y| \neq |x| + |y|$

5. (a)  $\frac{13}{48}$  (b)  $\frac{155}{396}$

6. (a)  $\frac{44}{315}$  (b)  $\frac{2}{21}$

7. Perimeter =  $\frac{1551}{20}$  m; Area = 351 sq m.