Fractions and Decimals: Exercise 2.4

Q.1 Find:

(i) 12 ÷ (3/4) **(ii) 14 ÷ (5/6)** **(iii) 8 ÷ (7/3)**

(iv) 4 ÷ (8/3) **(v) 3 ÷ $2\frac{1}{3}$** **(vi) 5 ÷ $3\frac{4}{7}$**

Sol:

(i) Given: 12 ÷ (3/4) = 12 x (4/3)
= 48/3
= 16

(ii) Given: 14 ÷ (5/6) = 14 x (6/5)
= 84/5

(iii) Given: 8 ÷ (7/3) = 8 x (3/7)
= 24/7

(iv) Given: 4 ÷ (8/3) = 4 x (3/8)
= 12/8
= 3/2

(v) Given: 3 ÷ $2\frac{1}{3}$

Firstly, we convert the mixed fraction into improper fraction.

3 ÷ (7/3) = 3 x (3/7)
= 9/7 or $1\frac{2}{7}$

(vi) Given: 5 ÷ $3\frac{4}{7}$

Firstly, we convert the mixed fraction into improper fraction.

5 ÷ $3\frac{4}{7}$ = 5 ÷ (25/7)
= 5 x (25/7)
= 125/7 or $17\frac{6}{7}$

Q.2 Find the reciprocal of each of the following fractions. Classify the reciprocals as proper fractions, improper fractions and whole numbers.

(i) 3/7 **(ii) 5/8** **(iii) 9/7** **(iv) 6/5**
(v) 12/7 **(vi) 1/8** **(vii) 1/11**

Sol:

(i) Given: 3/7
Reciprocal of (3/7) is (7/3).

Since, fraction in which numerator is greater than its denominator is called improper fraction. So it is an improper fraction.

(ii) Given: 5/8
Reciprocal of (5/8) is (8/5).
Since, fraction in which numerator is greater than its denominator is called improper fraction. So it is an improper fraction.

(iii) Given: 9/7
Reciprocal of (9/7) is (7/9).
Since, fraction in which denominator is greater than its numerator is called proper fraction. So it is a proper fraction.

(iv) Given: 6/5
Reciprocal of (6/5) is (5/6).
Since, fraction in which denominator is greater than its numerator is called proper fraction. So it is a proper fraction.

(v) Given: 12/7
Reciprocal of (12/7) is (7/12).
Since, fraction in which denominator is greater than its numerator is called proper fraction. So it is a proper fraction.

(vi) Given: 1/8
Reciprocal of (1/8) is (8).
Since, all positive integers including 0 is called whole numbers. So it is a whole number.

(vii) Given: 1/11
Reciprocal of (1/11) is (11).
Since, all positive integers including 0 is called whole numbers. So it is a whole number.

Q.3 Find:
(i) (7/3) ÷ 2 **(ii) (4/9) ÷ 5** **(iii) (6/13) ÷7**
(iv) $4\frac{1}{3} \div 3$ **(v)** $3\frac{1}{2} \div 4$ **(vi)** $4\frac{3}{7} \div 7$

Sol:
(i) Given: (7/3) ÷ 2 = (7/3) x (1/2)
= (7 x 1)/ (3 x 2)
= 7/6 or $1\frac{1}{6}$

(ii) Given: (4/9) ÷ 5 = (4/9) x (1/5)
= (4x1)/(9x5)
= 4/45

(iii) Given: (6/13) ÷7 = (6/13) x (1/7)
= (6x1)/(13x7)
= 6/91

(iv) Given: $4\frac{1}{3} \div 3$
Firstly, we convert the mixed fraction into improper fraction.

$4\frac{1}{3} \div 3 = (13/3) \times (1/3)$

$= (13x1)/(3x3)$

$= 13/9$

(v) Given: $3\frac{1}{2} \div 4$

Firstly, we convert the mixed fraction into improper fraction.

$3\frac{1}{2} \div 4 = (7/2) \times (1/4)$

$= (7x1)/(2x4)$

$= 7/8$

(vi) Given: $4\frac{3}{7} \div 7$

Firstly, we convert the mixed fraction into improper fraction.

$4\frac{3}{7} \div 7 = (31/7) \times (1/7)$

$= (31x1)/(7x7)$

$= 31/49$

Q.4 Find:

(i) (2/5) ÷ (1/2) **(ii) (4/9) ÷ (2/3)** **(iii) (3/7) ÷ (8/7)** **(iv)** $2\frac{1}{3} \div (3/5)$

(v) $3\frac{1}{2} \div (8/3)$ **(vi) (2/5) ÷** $1\frac{1}{2}$ **(vii)** $3\frac{1}{5} \div 1\frac{2}{3}$ **(vii)** $2\frac{1}{5} \div 1\frac{1}{5}$

Sol:

(i) Given: $(2/5) \div (1/2) = (2/5) \times (2/1)$

$= (2x2)/(5x1)$

$= 4/5$

(ii) Given: $(4/9) \div (2/3) = (4/9) \times (3/2)$

$= (4x3)/(9x2)$

$= 12/18$

$= 2/3$

(iii) Given: $(3/7) \div (8/7) = (3/7) \times (7/8)$

$= (3x7)/(7x8)$

$= 21/56$

$= 3/8$

(iv) Given: $2\frac{1}{3} \div (3/5)$

Firstly, we convert the mixed fraction into improper fraction.

$2\frac{1}{3} \div (3/5) = (7/3) \times (5/3)$

$= (7x5)/(3x3)$

= (35/9) or $3\frac{8}{9}$

(v) Given: $3\frac{1}{2} \div (8/3)$

Firstly, we convert the mixed fraction into improper fraction.

$3\frac{1}{2} \div (8/3) = (7/2) \text{ x } (3/8)$

= (7x3)/(2x8)

= (21/16) or $1\frac{5}{16}$

(vi) Given: $(2/5) \div 1\frac{1}{2}$

Firstly, we convert the mixed fraction into improper fraction.

$(2/5) \div 1\frac{1}{2} = (2/5) \div (3/2)$

= (2/5) x (2/3)

= (2x2)/(5x3)

= 4/15

(vii) Given: $3\frac{1}{5} \div 1\frac{2}{3}$

Firstly, we convert the mixed fraction into improper fraction.

$3\frac{1}{5} \div 1\frac{2}{3} = (16/5) \div (5/3)$

= (16/5) x (3/5)

= (16x3)/(5x5)

= 48/25 or $1\frac{23}{25}$

(vii) Given: $2\frac{1}{5} \div 1\frac{1}{5}$

Firstly, we convert the mixed fraction into improper fraction.

$2\frac{1}{5} \div 1\frac{1}{5} = (11/5) \div (6/5)$

= (11/5) x (5/6)

= (11 x 5)/(5x6)

= 55/30

= 11/6