



NCERT Solutions For Class 7 Maths Fractions and Decimals Exercise 2.3

**Q1. Find:**

(i)  $\frac{1}{4}$  of (a)  $\frac{1}{4}$  (b)  $\frac{3}{5}$  (c)  $\frac{4}{3}$

(ii)  $\frac{1}{7}$  of (a)  $\frac{2}{9}$  (b)  $\frac{6}{5}$  (c)  $\frac{3}{10}$

**Ans:**

(i) (a)  $\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$

(b)  $\frac{1}{4} \times \frac{3}{5} = \frac{3}{20}$

(c)  $\frac{1}{4} \times \frac{4}{3} = \frac{1}{3}$

(ii) (a)  $\frac{1}{7} \times \frac{2}{9} = \frac{2}{63}$

(b)  $\frac{1}{7} \times \frac{6}{5} = \frac{6}{35}$

(c)  $\frac{1}{7} \times \frac{3}{10} = \frac{3}{70}$

**Q2. Multiply and reduce to lowest form (if possible):**

i)  $\frac{2}{3} \times 2\frac{2}{3}$  (ii)  $\frac{2}{7} \times \frac{7}{9}$  (iii)  $\frac{3}{8} \times \frac{6}{4}$

(iv)  $\frac{9}{5} \times \frac{3}{5}$  (v)  $\frac{1}{3} \times \frac{15}{8}$  (vi)  $\frac{11}{2} \times \frac{3}{10}$

(vii)  $\frac{4}{5} \times \frac{12}{7}$

**Ans:**

$$(i) \frac{2}{3} \times 2\frac{2}{3} = \frac{2}{3} \times \frac{8}{3} = \frac{16}{9} = 1\frac{7}{9}$$

$$(ii) \frac{2}{7} \times \frac{7}{9} = \frac{2}{9}$$

$$(iii) \frac{3}{8} \times \frac{6}{4} = \frac{9}{16}$$

$$(iv) \frac{9}{5} \times \frac{3}{5} = \frac{27}{25} = 1\frac{2}{25}$$

$$(v) \frac{1}{3} \times \frac{15}{8} = \frac{5}{8}$$

$$(vi) \frac{11}{2} \times \frac{3}{10} = \frac{33}{20} = 1\frac{13}{20}$$

$$(vii) \frac{4}{5} \times \frac{12}{7} = \frac{48}{35} = 1\frac{13}{35}$$

**Q3.** Multiply the following fractions:

$$(i) \frac{2}{5} \times 5\frac{1}{4} \quad (ii) 6\frac{2}{5} \times \frac{7}{9} \quad (iii) \frac{3}{2} \times 5\frac{1}{3}$$

$$(iv) \frac{5}{6} \times 2\frac{3}{7} \quad (v) 3\frac{2}{5} \times \frac{4}{7} \quad (vi) 2\frac{3}{5} \times 3$$

$$(vii) 3\frac{4}{7} \times \frac{3}{5}$$

**Ans:**

$$(i) \frac{2}{5} \times 5\frac{1}{4} = \frac{2}{5} \times \frac{21}{4} = \frac{21}{10}$$

This is an improper fraction and it can be

written as a mixed fraction as  $2\frac{1}{10}$ .

$$(ii) 6\frac{2}{5} \times \frac{7}{9} = \frac{32}{5} \times \frac{7}{9} = \frac{224}{45}$$

This is an improper fraction and it can be written as a mixed fraction as  $4\frac{44}{45}$ .

$$(iii) \frac{3}{2} \times 5\frac{1}{3} = \frac{3}{2} \times \frac{16}{3} = 8$$

This is a whole number.

$$(iv) \frac{5}{6} \times 2\frac{3}{7} = \frac{5}{6} \times \frac{17}{7} = \frac{85}{42}$$

This is an improper fraction and it can be written as a mixed fraction as  $2\frac{1}{42}$ .

$$(v) 3\frac{2}{5} \times \frac{4}{7} = \frac{17}{5} \times \frac{4}{7} = \frac{68}{35}$$

This is an improper fraction and it can be written as a mixed fraction as  $1\frac{33}{35}$ .

$$(vi) 2\frac{3}{5} \times 3 = \frac{13}{5} \times 3 = \frac{39}{5}$$

This is an improper fraction and it can be written as a mixed fraction as  $7\frac{4}{5}$ .

$$(vii) 3\frac{4}{7} \times \frac{3}{5} = \frac{25}{7} \times \frac{3}{5} = \frac{15}{7}$$

This is an improper fraction and it can be

written as a mixed fraction as  $2\frac{1}{7}$ .

**Q4.** Which is greater:

(i)  $\frac{2}{7}$  of  $\frac{3}{4}$  or  $\frac{3}{5}$  of  $\frac{5}{8}$

(ii)  $\frac{1}{2}$  of  $\frac{6}{7}$  or  $\frac{2}{3}$  of  $\frac{3}{7}$

**Ans:**

(i)  $\frac{2}{7} \times \frac{3}{4} = \frac{3}{14}$

$$\frac{3}{5} \times \frac{5}{8} = \frac{3}{8}$$

Converting these fractions into like fractions,

$$\frac{3}{14} = \frac{3 \times 4}{14 \times 4} = \frac{12}{56}$$

$$\frac{3}{8} = \frac{3 \times 7}{8 \times 7} = \frac{21}{56}$$

Since  $\frac{21}{56} > \frac{12}{56}$ ,

$$\therefore \frac{3}{8} > \frac{3}{14}$$

Therefore,  $\frac{3}{5}$  of  $\frac{5}{8}$  is greater.

(ii)  $\frac{1}{2} \times \frac{6}{7} = \frac{3}{7}$

$$\frac{2}{3} \times \frac{3}{7} = \frac{2}{7}$$

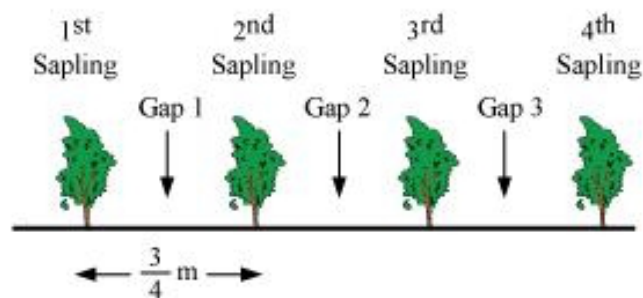
Since  $3 > 2$ ,

$$\therefore \frac{3}{7} > \frac{2}{7}$$

Therefore,  $\frac{1}{2}$  of  $\frac{6}{7}$  is greater.

**Q5.** Saili plants 4 saplings, in a row, in her garden. The distance between two adjacent saplings is  $\frac{3}{4}$  m. Find the distance between the first and the last sapling.

**Ans:**



From the figure, it can be observed that gaps between 1st and last sapling = 3

$$\text{Length of 1 gap} = \frac{3}{4} \text{ m}$$

Therefore, distance between 1st and 4th sapling =

$$3 \times \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4} \text{ m}$$

**Q6.** Lipika reads a book for  $1\frac{3}{4}$  hours everyday.

She reads the entire book in 6 days. How many hours in all were required by her to read the book?

**Ans:**

Number of hours Lipika reads the book per day

$$= 1\frac{3}{4} = \frac{7}{4} \text{ hours}$$

Number of days = 6

Total number of hours required by her to read

$$\text{the book} = \frac{7}{4} \times 6$$

$$= \frac{21}{2} = 10\frac{1}{2} \text{ hours}$$

**Q7.** A car runs 16 km using 1 litre of petrol. How much distance will it cover using  $2\frac{3}{4}$  litres of petrol.

**Ans:**

Number of kms a car can run per litre petrol = 16 km

$$\text{Quantity of petrol} = 2\frac{3}{4} \text{ L} = \frac{11}{4} \text{ L}$$

Number of kms a car can run for  $\frac{11}{4}$  litre petrol =

$$\frac{11}{4} \times 16 = 44 \text{ km}$$

It will cover 44 km distance by using  $2\frac{3}{4}$  litres of petrol.

**Q8.** (a) (i) Provide the number in the box  $\square$ ,

such that  $\frac{2}{3} \times \square = \frac{10}{30}$ .

(ii) The simplest form of the number obtained in  $\square$  is \_\_\_\_\_.

(b) (i) Provide the number in the box  $\square$ , such

that  $\frac{3}{5} \times \square = \frac{24}{75}$ ?

(ii) The simplest form of the number obtained in  $\square$  is \_\_\_\_\_.

**Ans:**

(a) (i) As  $\frac{2}{3} \times \frac{5}{10} = \frac{10}{30}$ ,

Therefore, the number in the box  $\square$ , such that

$\frac{2}{3} \times \square = \frac{10}{30}$  is

$\frac{5}{10}$ .

(ii) The simplest form of  $\frac{5}{10}$  is  $\frac{1}{2}$ .

(b) (i) As  $\frac{3}{5} \times \frac{8}{15} = \frac{24}{75}$ ,

Therefore, the number in the box  $\square$ , such that

$\frac{3}{5} \times \square = \frac{24}{75}$  is

$\frac{8}{15}$ .

(ii) As  $\frac{8}{15}$  cannot be further simplified, therefore,

its simplest form is  $\frac{8}{15}$

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