RD Sharma Solutions

Class 7

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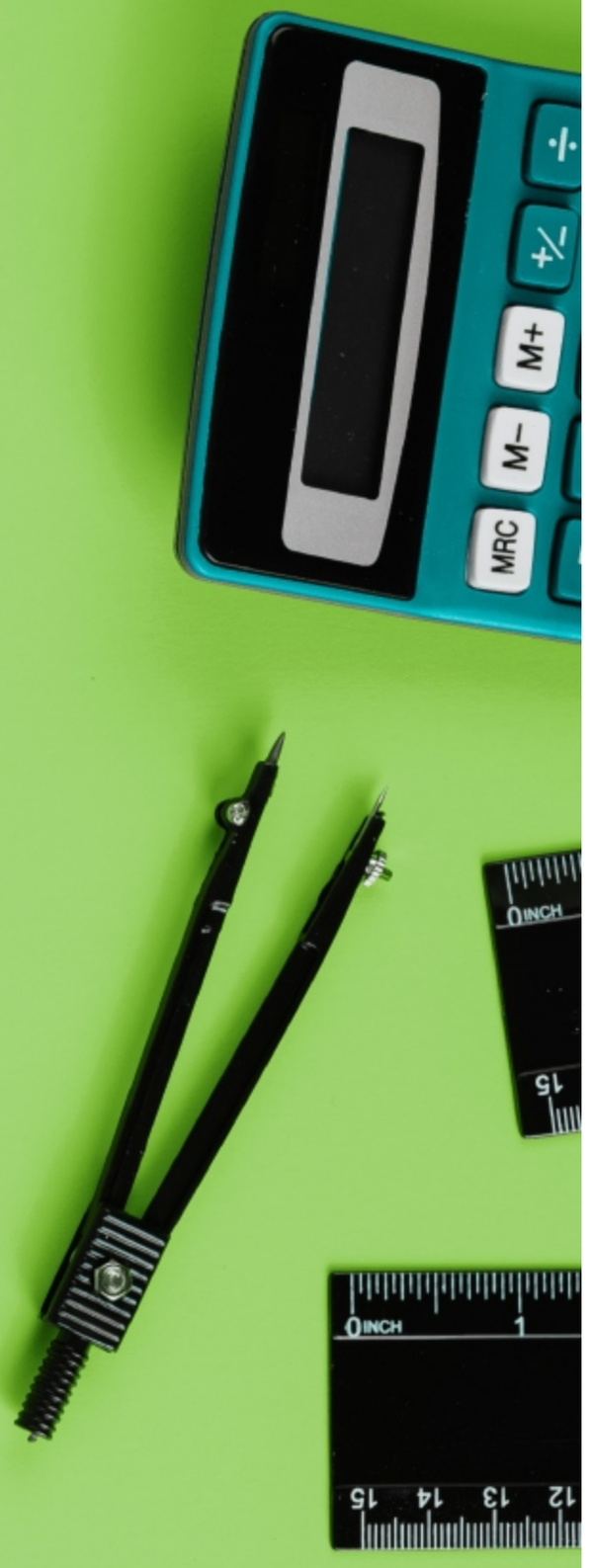

Exercise 2.2

1. **Multiply:**

(i) $\frac{7}{11} \times \frac{3}{5}$ (ii) $\frac{3}{5}$ by 25 (iii) $3\frac{4}{15}$ by 24

(iv) $3\frac{1}{8}$ by $4\frac{10}{11}$

Solution (i) $\frac{7}{11} \times \frac{3}{5} = \frac{7 \times 3}{11 \times 5} = \frac{21}{55}$

(ii) $\frac{3}{5} \times 25 = \frac{3 \times 25}{5} = 15$

(iii) $3\frac{4}{15} \times 24 = \frac{49}{15} \times 24 = \frac{392}{5} = 78\frac{2}{5}$

(iv) $3\frac{1}{8} \times 4\frac{10}{11} = \frac{25}{8} \times \frac{54}{11} = \frac{675}{44} = 15\frac{15}{44}$

Q.2 Find the Product:

(i) $\frac{4}{7} \times \frac{14}{25}$ (ii) $7\frac{1}{2} \times 2\frac{4}{15}$ (iii) $3\frac{6}{7} \times 4\frac{2}{3}$

(iv) $6\frac{11}{14} \times 3\frac{1}{2}$

Solution: (i) $\frac{4}{7} \times \frac{14}{25} = \frac{4 \times 14}{7 \times 25} = \frac{56}{175}$

(ii) $7\frac{1}{2} \times 2\frac{4}{15} = \frac{15}{2} \times \frac{34}{15} = 17$

(iii) $3\frac{6}{7} \times 4\frac{2}{3} = \frac{27}{7} \times \frac{14}{3} = 18$

(iv) $6\frac{11}{14} \times 3\frac{1}{2} = \frac{95}{14} \times \frac{7}{2} = \frac{95}{4} = 23\frac{3}{4}$

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Q.3 Simplify. (i) $\frac{12}{25} \times \frac{15}{28} \times \frac{35}{36}$

(ii) $\frac{10}{27} \times \frac{39}{56} \times \frac{28}{65}$ (iii) $2\frac{2}{17} \times 7\frac{2}{9} \times 1\frac{33}{52}$

Solution: (i) $\frac{\cancel{12}^{1}}{\cancel{25}_{5}} \times \frac{\cancel{15}^{3}}{\cancel{28}_{4}} \times \frac{\cancel{35}^{5}}{\cancel{36}_{3}} = \frac{1}{4}$

(ii) $\frac{\cancel{10}^{2}}{\cancel{27}_{9}} \times \frac{\cancel{39}^{3\,1}}{\cancel{56}_{2}} \times \frac{\cancel{28}^{1}}{\cancel{65}_{5}} = \frac{1}{9}$

(iii) $2\frac{2}{17} \times 7\frac{2}{9} \times 1\frac{33}{52}$

$= \frac{\cancel{36}^{9}}{\cancel{17}_{1}} \times \frac{\cancel{65}^{5}}{\cancel{9}} \times \frac{\cancel{85}^{5}}{\cancel{52}_{4}} = 25$

Q.4 Find: (i) $\frac{1}{2}$ of $4\frac{2}{9}$ (ii) $\frac{5}{8}$ of $9\frac{2}{3}$

(iii) $\frac{2}{3}$ of $\frac{9}{16}$

Solution: (i) $\frac{1}{2}$ of $4\frac{2}{9} = \frac{1}{2} \times \frac{\cancel{38}^{19}}{9} = \frac{19}{9} = 2\frac{1}{9}$

(ii) $\frac{5}{8}$ of $9\frac{2}{3} = \frac{5}{8} \times \frac{29}{3} = \frac{145}{24} = 6\frac{1}{24}$

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

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Q.5 Which is greater?

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

Solution $\frac{1}{2}$ of $\frac{6}{7} = \frac{1}{2} \times \frac{6}{7} = \frac{3}{7}$

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

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

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

Q.6 Find:

(i) $\frac{7}{11}$ of Rs 330 (ii) $\frac{5}{9}$ of 108 metres.

(iii) $\frac{3}{7}$ of 42 litres (iv) $\frac{1}{12}$ of an hour.

(v) $\frac{5}{6}$ of an year (vi) $\frac{3}{20}$ of a kg

(vii) $\frac{7}{20}$ of a litre (viii) $\frac{5}{6}$ of a day (ix) $\frac{2}{7}$ of week

Solution (i) $\frac{7}{11}$ of Rs. 330 $= \frac{7}{\cancel{11}} \times \overset{3}{\cancel{330}} =$ Rs. 210

(ii) $\frac{5}{9}$ of 108 $= \frac{5}{\cancel{9}} \times \overset{12}{\cancel{108}} = 60$ metres.

(iii) $\frac{3}{7}$ of 42 litres $= \frac{3}{\cancel{7}} \times \overset{6}{\cancel{42}} = 18$ litres.

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(iv) $\frac{1}{12}$ of an hour $= \frac{1}{12} \times 60$ minutes $= 5$ minutes.

(v) $\frac{5}{6}$ of an year $= \frac{5}{6} \times 12 = 10$ Months

(vi) $\frac{3}{20}$ of a kg $= \frac{3}{20} \times 1000 = 150$ gm.

(vii) $\frac{7}{20}$ of a litre $= \frac{7}{20} \times 1000$ ml $= 350$ ml.

(viii) $\frac{5}{6}$ of a day $= \frac{5}{6} \times 24$ hours $= 20$ hours.

(ix) $\frac{2}{7}$ of week $= \frac{2}{7} \times 7$ days $= 2$ days.

Q.7 Shikha Plants 5 saplings in a row in her garden. The distance between two adjacents sapling is $\frac{3}{4}$ m. Find the distance between the first and last sapling.

Solution: Total saplings $= 5$

distance between two saplings $= \frac{3}{4}$ m.

$\therefore$ Distance between first and last sapling $= 4 \times \frac{3}{4}$

$= \frac{12}{4} = 3$ m

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Q8 Ravish reads $\frac{1}{3}$ part of a book in 1 hour. How much part of the book will he read in $2\frac{1}{5}$ hours?

Solution: Part of book read in one hour $= \frac{1}{3}$

$\therefore$ Part of book read in $2\frac{1}{5}$ hour $= \frac{1}{3} \times 2\frac{1}{5}$

$= \frac{1}{3} \times \frac{11}{5} = \frac{11}{15}$

Q9 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.

Solution: Book read by Lipika in 1 day $= 1\frac{3}{4}$ hours

$= \frac{7}{4}$ hours.

$\therefore$ No. of hours book read in 6 days $= 6 \times \frac{7}{4}$

$= \frac{21}{2} = 10\frac{1}{2}$ hrs

Q10 Find the area of rectangular park which is $41\frac{2}{3}$ m long and $18\frac{3}{5}$ m broad?

Solution: Length of Park $= 41\frac{2}{3}$ m $= \frac{125}{3}$ m

breadth $= 18\frac{3}{5}$ m $= \frac{93}{5}$ m.

$\therefore$ Area = length × breadth

$= \frac{\cancel{125}^{25}}{3} \times \frac{\cancel{93}^{31}}{5} = 775 \text{ m}^2$

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Q.11 If milk is available at Rs. $17\frac{3}{4}$ per litre, find the cost of $7\frac{2}{5}$ litres of milk?

Solution: $\because$ Cost of 1 litre milk = Rs $17\frac{3}{4}$ m. $= \frac{71}{4}$ m.

$\therefore$ Cost of $7\frac{2}{5}$ litres of milk $= \frac{71}{4} \times 7\frac{2}{5}$

$= \frac{71}{4} \times \frac{37}{5} = \frac{2627}{20}$

$=$ Rs $131\frac{7}{20}$

Q.12 Sharda can walk $8\frac{1}{3}$ km in one hour. How much distance will she cover in $2\frac{2}{5}$ hours?

Solution: Distance covered in one hour $= 8\frac{1}{3}$ km

$= \frac{25}{3}$ km.

$\therefore$ Distance covered in $2\frac{2}{5}$ hour $= \frac{25}{3} \times 2\frac{2}{5}$ km

$= \frac{\overset{5}{\cancel{25}}}{\cancel{3}} \times \frac{\overset{4}{\cancel{12}}}{\cancel{5}} = 20$ km

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Q.13 A sugar bag contains 30 kg of sugar. After consuming $\frac{2}{3}$ of it, how much sugar is left in the bag?

Solution: Total weight of sugar = 30 kg

Sugar consumed $= \frac{2}{3}$ of 30 kg

$= \frac{2}{3} \times 30 = 20$ kg.

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1. Sugar left in the bag = 30kg − 20kg
= 10 kg.

Q.14 Each side of a square is $6\frac{2}{3}$ m long. Find its area.

Solution: Each side of square $= 6\frac{2}{3}$ m $= \frac{20}{3}$ m.

$\therefore$ Area of square = side × side

$= \frac{20}{3} \times \frac{20}{3} = \frac{400}{9}$ m²

$= 44\frac{4}{9}$ m²

Q.15 There are 45 students in a class and $\frac{3}{5}$ of them are boys. How many girls are there in the class.

Solution: Total students = 45

No. of boys $= \frac{3}{5}$ of 45 $= \frac{3}{5} \times 45$

$= 27$

$\therefore$ No. of girls = 45 − 27

= 18

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