

NCERT QUESTIONS WITH SOLUTIONS

FIGURE IT OUT-01

1. Tenzin drinks $\frac{1}{2}$ glass of milk every day.

How many glasses of milk does he drink in a week? How many glasses of milk did he drink in the month of January?

Sol. Given, the total glasses of milk Tenzin drinks per day = $\frac{1}{2}$

Number of glasses of milk he drinks in a week (7 days) = $\frac{1}{2} \times 7 = \frac{7}{2}$ glasses

Now, number of glasses of milk he drinks in the month of January (31 days) = $\frac{1}{2} \times 31 = \frac{31}{2}$ glasses

Hence, Tenzin drinks $\frac{7}{2}$ glasses of milk in one week and $\frac{31}{2}$ glasses in the month of January.

2. A team of workers can make 1 km of a water canal in 8 days. So, in one day, the team can make ___ km of the water canal. If they work 5 days a week, they can make ___ km of the water canal in a week.

Sol. Given, the total length of water canal that team can make in 8 days = 1 km
 Length of canal made in one day = $1 \div 8 = \frac{1}{8}$ km
 Length of canal they can make in a week (5 working day)

$$\frac{1}{8} \times 5 = \frac{5}{8} \text{ km}$$

So, the team can make $\frac{1}{8}$ km of the water canal in one day and $\frac{5}{8}$ km in a week.

3. Manju and two of her neighbours buy 5 litres of oil every week and share it equally among the 3 families. How much oil does each family get in a week? How much oil will one family get in 4 weeks?

Sol. Given, the total quantity of oil bought every week = 5 litres and number of families sharing the oil = 3.

So, quantity of oil each family gets in a week = $5 \div 3 = \frac{5}{3}$ litres

And quantity of oil one family gets in 4 weeks = $\frac{5}{3} \times 4 = \frac{20}{3}$ litres

So, each family gets $\frac{5}{3}$ litres of oil in a week and $\frac{20}{3}$ litres in 4 weeks.

4. Safia saw the Moon setting on Monday at 10 pm. Her mother, who is a scientist, told her that every day the Moon sets $\frac{5}{6}$ hour later than the previous day. How many hours after 10 pm will the moon set on Thursday?

Sol. Given, the Moon sets $\frac{5}{6}$ hour later each

day than the previous day and time to set the moon on Monday = 10 pm.

Now, time difference on Tuesday = $\frac{5}{6}$ hour, time difference on Wednesday = $\frac{5}{6}$

$\frac{5}{6} \times 2 = \frac{10}{6}$ hours and time difference on

Thursday = $\frac{5}{6} \times 3 = \frac{15}{6}$ hours

So, the Moon will set $\frac{15}{6}$ hours after 10 pm on Thursday.

5. Multiply and then convert it into a mixed fraction:

(a) $7 \times \frac{3}{5}$ (b) $4 \times \frac{1}{3}$

(c) $\frac{9}{7} \times 6$ (d) $\frac{13}{11} \times 6$

Sol. (a) We have, $7 \times \frac{3}{5} = \frac{21}{5}$

This is required lowest form.

Now, on dividing 21(numerator) by 5(denominator), we get

Quotient = 4 and remainder = 1

Mixed fraction = Quotient $\frac{\text{Remainder}}{\text{Divisor}}$

$$= 4\frac{1}{5}$$

(b) We have, $4 \times \frac{1}{3} = \frac{4}{3}$

This is required lowest form.

Now, on dividing 4(numerator) by 3 (denominator),

we get,

Quotient = 1 and remainder = 1

Mixed fraction = Quotient $\frac{\text{Remainder}}{\text{Divisor}}$

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

(c) We have, $\frac{9}{7} \times 6 = \frac{54}{7}$

This is required lowest form.

Now, on dividing 54(numerator) by 7 (denominator), we get

Quotient = 7 and remainder = 5

Mixed fraction = Quotient $\frac{\text{Remainder}}{\text{Divisor}}$

$$= 7\frac{5}{7}$$

(d) We have, $\frac{13}{11} \times 6 = \frac{78}{11}$

This is required lowest form.

Now, on dividing 78 (numerator) by 11 (denominator), we get

Quotient = 7 and remainder = 1

Mixed fraction = Quotient $\frac{\text{Remainder}}{\text{Divisor}}$

$$= 7\frac{1}{11}$$

FIGURE IT OUT-02

1. Find the following products.

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

(c) $\frac{1}{5} \times \frac{1}{2}$ (d) $\frac{1}{6} \times \frac{1}{5}$

Now, find $\frac{1}{12} \times \frac{1}{18}$

Sol. Use formula; $\frac{1}{b} \times \frac{1}{d} = \frac{1}{bd}$

(a) We have, $\frac{1}{3} \times \frac{1}{5} = \frac{1 \times 1}{3 \times 5} = \frac{1}{15}$

(b) We have, $\frac{1}{4} \times \frac{1}{3} = \frac{1 \times 1}{4 \times 3} = \frac{1}{12}$

(c) We have, $\frac{1}{5} \times \frac{1}{2} = \frac{1 \times 1}{5 \times 2} = \frac{1}{10}$

(d) We have, $\frac{1}{6} \times \frac{1}{5} = \frac{1 \times 1}{6 \times 5} = \frac{1}{30}$

Now, $\frac{1}{12} \times \frac{1}{18} = \frac{1 \times 1}{12 \times 18} = \frac{1}{216}$

2. Find the following products.

(a) $\frac{2}{3} \times \frac{4}{5}$ (b) $\frac{1}{4} \times \frac{2}{3}$

(c) $\frac{3}{5} \times \frac{1}{2}$ (d) $\frac{4}{6} \times \frac{3}{5}$

Sol. (a) We have, $\frac{2}{3} \times \frac{4}{5} = \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$

(b) We have, $\frac{1}{4} \times \frac{2}{3} = \frac{1 \times 2}{4 \times 3} = \frac{1}{6}$

(c) We have, $\frac{3}{5} \times \frac{1}{2} = \frac{3 \times 1}{5 \times 2} = \frac{3}{10}$

(d) We have, $\frac{4}{6} \times \frac{3}{5} = \frac{4 \times 3}{6 \times 5} = \frac{2}{5}$

FIGURE IT OUT-03

1. A water tank is filled from a tap. If the tap is open for 1 hour, $\frac{7}{10}$ of the tank gets filled. How much of the tank is filled if the tap is open for

(a) $\frac{1}{3}$ hours

(b) $\frac{2}{3}$ hours

(c) $\frac{3}{4}$ hours

(d) $\frac{7}{10}$ hours

(e) For the tank to be full, how long should the tap be running?

Sol. Given, if the tap is open for 1 hour, $\frac{7}{10}$ of the tank gets filled.

(a) If the tap is open for $\frac{1}{3}$ hour, then the

$$\text{fraction of tank filled} = \frac{7}{10} \times \frac{1}{3} = \frac{7}{30}$$

(b) If the tap is open for $\frac{2}{3}$ hour, then the fraction of tank filled

$$= \frac{7}{10} \times \frac{2}{3} = \frac{14}{30} = \frac{7}{15}$$

(c) If the tap is open for $\frac{3}{4}$ hour, the

$$\text{fraction of tank filled} = \frac{7}{10} \times \frac{3}{4} = \frac{21}{40}$$

(d) If the tap is open for $\frac{7}{10}$ hour, then

the fraction of tank filled

$$= \frac{7}{10} \times \frac{7}{10} = \frac{49}{100}$$

(e) For the tank to be full (i.e. 1 for whole tank). Let the required time be x hours.

$$\text{Then, } \frac{7}{10} \times x = 1$$

$$\Rightarrow x = 1 \div \left(\frac{7}{10} \right)$$

$$\Rightarrow x = \frac{10}{7} \text{ hours}$$

So, the tap should be running for $\frac{10}{7}$ hours to fill the tank complete

2. The government has taken $\frac{1}{6}$ of Somu's

land to build a road. What part of the land remains with Somu now? She gives half of the remaining part of the land to her daughter Krishna and $\frac{1}{3}$ of it to her son

Bora. After giving them their shares, she keeps the remaining land for herself.

(a) What part of the original land did Krishna get?

(b) What part of the original land did Bora get?

(c) What part of the original land did Somu keep for herself?

Sol. Given the government has taken $\frac{1}{6}$ of

Somu's land.

So, the land remaining with Somu

$$= 1 - \frac{1}{6} = \frac{6-1}{6} = \frac{5}{6}$$

(a) Since, she gives half of the remaining land to Krishna.

$$\therefore \text{Krishna's share} = \frac{1}{2} \times \frac{5}{6} = \frac{5}{12}$$

(b) She gives $\frac{1}{3}$ of the remaining land

$\left(\frac{5}{6}\right)$ to Bora.

$$\text{Bora's share} = \frac{1}{3} \times \frac{5}{6} = \frac{5}{18}$$

(c) Now, Somu's share = $\frac{5}{6} - (\text{Krishna's share}) + \text{Bora's share}$

$$= \frac{5}{6} - \left(\frac{5}{12} + \frac{5}{18}\right)$$

To subtract take LCM of 12 and 18 = 36

$$= \frac{5}{6} - \left(\frac{15}{36} + \frac{10}{36}\right)$$

$$= \frac{5}{6} - \frac{25}{36}$$

$$= \frac{30}{36} - \frac{25}{36} = \frac{5}{36}$$

3. Find the area of a rectangle of sides $3\frac{3}{4}$ ft and $9\frac{3}{5}$ ft.

Sol. Given, the sides of the rectangle are $3\frac{3}{4}$ ft and $9\frac{3}{5}$ ft.

Convert to improper fractions

$$3\frac{3}{4} = \frac{15}{4} \text{ and } 9\frac{3}{5} = \frac{48}{5}$$

$$\text{Area of rectangle} = \frac{15}{4} \times \frac{48}{5}$$

[$\because$ area of rectangle = length $\times$ breadth]

$$= \frac{15 \times 48}{4 \times 5} = 36$$

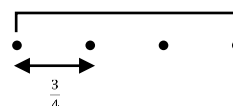
So, the area of the rectangle is 36 square feet.

4. Tsewang plants four saplings in a row in his garden. The distance between two saplings is $\frac{3}{4}$ m. Find the distance

between the first and last saplings.

[Hint: Draw a rough diagram with four saplings with distance between two saplings as $\frac{3}{4}$ m]

Sol. Given, the number of saplings = 4



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

Number of gaps between saplings

$$= 4 - 1 = 3$$

Total distance between the first and last

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

So, the distance between the first and last saplings is $2\frac{1}{4}$ metres.

5. Which is heavier: $\frac{12}{15}$ of 500 grams or $\frac{3}{20}$ of 4 kg?

Sol. We have,

$$\frac{12}{15} \text{ of } 500 \text{ grams} = \frac{12}{15} \times 500 \text{ grams}$$

$$= \frac{(12 \times 500)}{15} = \frac{6000}{15} = 400 \text{ grams}$$

$$\text{and } \frac{3}{20} \text{ of } 4 \text{ kg} = \frac{3}{20} \times 4000 \text{ grams}$$

[$\because 1 \text{ kg} = 1000 \text{ g}$]

$$= \frac{(3 \times 4000)}{20} = \frac{12000}{20} = 600 \text{ grams}$$

So, 600 grams is heavier than 400 grams.

Hence, $\frac{3}{20}$ of 4 kg is heavier.

FIGURE IT OUT -04

1. Evaluate the following:

	(i)	(ii)	(iii)	(iv)
Row 1	$3 \div \frac{7}{9}$	$\frac{14}{4} \div 2$	$\frac{2}{3} \div \frac{2}{3}$	$\frac{14}{6} \div \frac{7}{3}$
Row 2	$\frac{4}{3} \div \frac{3}{4}$	$\frac{7}{4} \div \frac{1}{7}$	$\frac{8}{2} \div \frac{4}{15}$	
Row 3	$\frac{1}{5} \div \frac{1}{9}$	$\frac{1}{6} \div \frac{11}{12}$	$3\frac{2}{3} \div 1\frac{3}{8}$	

Sol. Row 1

(i) We have, $3 \div \frac{7}{9} = 3 \times \frac{9}{7} = \frac{27}{7}$

(ii) We have, $\frac{14}{4} \div 2 = \frac{14}{4} \times \frac{1}{2} = \frac{7}{4}$

(iii) We have, $\frac{2}{3} \div \frac{2}{3} = \frac{2}{3} \times \frac{3}{2} = 1$

(iv) We have, $\frac{14}{6} \div \frac{7}{3} = \frac{14}{6} \times \frac{3}{7} = 1$

Row 2

(i) We have, $\frac{4}{3} \div \frac{3}{4} = \frac{4}{3} \times \frac{4}{3} = \frac{16}{9}$

(ii) We have, $\frac{7}{4} \div \frac{1}{7} = \frac{7}{4} \times 7 = \frac{49}{4}$

(iii) We have,

$$\frac{8}{2} \div \frac{4}{15} = 4 \div \frac{4}{15} = 4 \times \frac{15}{4} = 15$$

Row 3

(i) We have, $\frac{1}{5} \div \frac{1}{9} = \frac{1}{5} \times \frac{9}{1} = \frac{9}{5}$

(ii) We have, $\frac{1}{6} \div \frac{11}{12} = \frac{1}{6} \times \frac{12}{11} = \frac{2}{11}$

(iii) We have,

$$3\frac{2}{3} \div 1\frac{3}{8} = \frac{11}{3} \div \frac{11}{8} = \frac{11}{3} \times \frac{8}{11} = \frac{8}{3}$$

2. For each of the questions below, choose the expression that describes the solution. Then simplify it.

(a) Maria bought 8 m of lace to decorate the bags she made for school. She used $\frac{1}{4}$ m for each bag and finished the lace. How many bags did she decorate?

(i) $8 \times \frac{1}{4}$ (ii) $\frac{1}{8} \times \frac{1}{4}$

(iii) $8 \div \frac{1}{4}$ (iv) $\frac{1}{4} \div 8$

(b) $\frac{1}{2}$ meter of ribbon is used to make 8 badges. What is the length of the ribbon used for each badge?

(i) $8 \times \frac{1}{2}$ (ii) $\frac{1}{2} \div \frac{1}{8}$

(iii) $8 \div \frac{1}{2}$ (iv) $\frac{1}{2} \div 8$

(c) A baker needs $\frac{1}{6}$ kg of flour to make one loaf of bread. He has 5 kg of flour. How many loaves of bread can he make?

(i) $5 \times \frac{1}{6}$ (ii) $\frac{1}{6} \div 5$

(iii) $5 \div \frac{1}{6}$ (iv) 5×6

Sol. (a) (i) Given, the total length of lace = 8 m and lace used for each bag = $\frac{1}{4}$ m
Now, number of bags she decorated
 $= 8 \div \frac{1}{4}$

(b) (ii) Given, total length of ribbon = $\frac{1}{2}$ metre and total number of badges = 8
Now, length of ribbon used for each badge = $\frac{1}{2} \div 8$

(c) (iii) Given, the total weight of flour = 5 kg and flour required for one loaf = $\frac{1}{6}$ kg.

Now, number of loaves = $5 \div \frac{1}{6}$

3. If $\frac{1}{4}$ kg of flour is used to make 12 rotis, how much flour is used to make 6 rotis?

Sol. Given flour used to make 12 rotis = $\frac{1}{4}$ kg

Now, flour used to make 1 roti = $\frac{1}{4} \div 12$

$= \frac{1}{4} \times \frac{1}{12} = \frac{1}{48}$ kg

And flour used to make 6 rotis

$= \frac{1}{48} \times 6 = \frac{1}{8}$ kg

So, the flour used to make 6 rotis is $\frac{1}{8}$ kg.

4. Pāṭiṅaṇita, a book written by Sridharacharya in the 9th century CE, mentions this problem: "Friend, after thinking, what sum will be obtained by adding together

$1 \div \frac{1}{6}, 1 \div \frac{1}{10}, 1 \div \frac{1}{13}, 1 \div \frac{1}{9}$ and $1 \div \frac{1}{2}$.

What should the friend say?

Sol. Here, $1 \div \frac{1}{6} = 1 \times \frac{6}{1} = 6$,

$1 \div \frac{1}{10} = 1 \times \frac{10}{1} = 10$,

$1 \div \frac{1}{13} = 1 \times \frac{13}{1} = 13$,

$1 \div \frac{1}{9} = 1 \times \frac{9}{1} = 9$

and $1 \div \frac{1}{2} = 1 \times \frac{2}{1} = 2$

Now, total sum = $6 + 10 + 13 + 9 + 2 = 40$

So, the friend should say 40.

5. Mira is reading a novel that has 400 pages. She read $\frac{1}{5}$ of the pages yesterday

and $\frac{3}{10}$ of the pages today. How many more pages does she need to read to finish the novel?

Sol. Given, total number of pages in a novel = 400

Now, number of pages read by Mira on yesterday

$= \frac{1}{5} \times 400 = 80$

And number of pages read by Mira today

$= \frac{3}{10} \times 400 = 120$

So, total pages read in both days

$= 80 + 120 = 200$

Hence, number of pages remaining to finish the novel = $400 - 200 = 200$

So, Mira needs to read 200 more pages to finish the novel.

6. A car runs 16 km using 1 litre of petrol.
How far will it go using $2\frac{3}{4}$ litres of petrol?

Sol. Given, the total distance covered by car in 1 litre of petrol = 16 km

So, distance covered by car in $2\frac{3}{4}$ litres of petrol = $2\frac{3}{4} \times 16 = \frac{11}{4} \times 16 = \frac{176}{4} = 44$ km

So, the car will go 44 km using $2\frac{3}{4}$ litres of petrol.

7. Amritpal decides on a destination for his vacation. If he takes a train, it will take him $5\frac{1}{6}$ hours to get there. If he takes a plane, it will take him $\frac{1}{2}$ hour. How many hours does the plane save?

Sol. Given, time taken by train to reach the destination = $5\frac{1}{6} = \frac{31}{6}$ hours

and time taken plane to reach the destination = $\frac{1}{2}$ hour

Now, total time saved = $\frac{31}{6} - \frac{1}{2} = \frac{31-3}{6} = \frac{28}{6} = \frac{14}{3}$ hours

So, the plane saves $\frac{14}{3}$ hours.

8. Mariam's grandmother baked a cake. Mariam and her cousins finished $\frac{4}{5}$ of the cake. The remaining cake was shared equally by Mariam's three friends. How much of the cake did each friend get?

Sol. Given, Mariam and her cousins finished $\frac{4}{5}$ of the cake.

Now, fraction of cake left = $1 - \frac{4}{5} = \frac{1}{5}$

and cake shared by 3 friends = $\frac{1}{5} \div 3$

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

So, each friend got $\frac{1}{15}$ of the cake.

9. Choose the option(s) describing the product of $\left(\frac{565}{465} \times \frac{707}{676}\right)$.

(a) $> \frac{565}{465}$ (b) $< \frac{565}{465}$

(c) $> \frac{707}{676}$ (d) $< \frac{707}{676}$

(e) > 1 (f) < 1

Sol. Compare with options:

(a) $> \frac{565}{465}$: (✓) Yes, because $\frac{707}{676} > 1$, so multiplying improper fraction increase the value.

(b) $< \frac{565}{465}$: (✗) No.

(c) $> \frac{707}{676}$: (✓) Yes, because $\frac{565}{465} > 1$, so multiplying improper fraction increases the value.

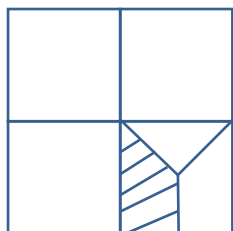
(d) $< \frac{707}{676}$: (✗) No.

(e) > 1 : (✓) Yes, both fraction are greater than 1 so the product is greater than 1.

(f) < 1 : (✗) No.

∴ (a), (c), (e) are correct options.

10. What fraction of the whole square is shaded?

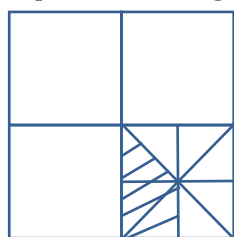


Sol. The whole square is divided into 4 equal smaller squares.

Focus on the bottom right square – it's subdivided further:

It is split into 8 equal triangles using diagonal lines.

Of those 8 parts, 3 triangles are shaded.



Fraction of the whole taken by one small square = $\frac{1}{4}$

$$\text{square} = \frac{1}{4}$$

Fraction of the small triangle that is shaded = $\frac{3}{8}$

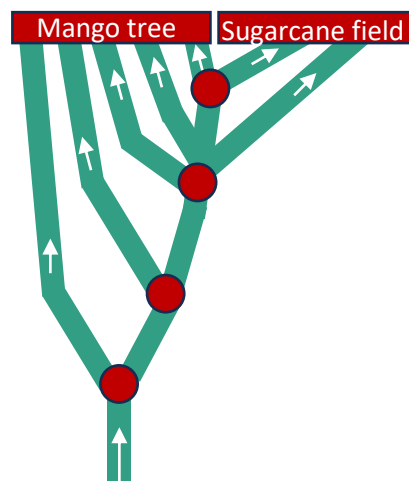
$$\text{shaded} = \frac{3}{8}$$

Fraction of whole square which is shaded

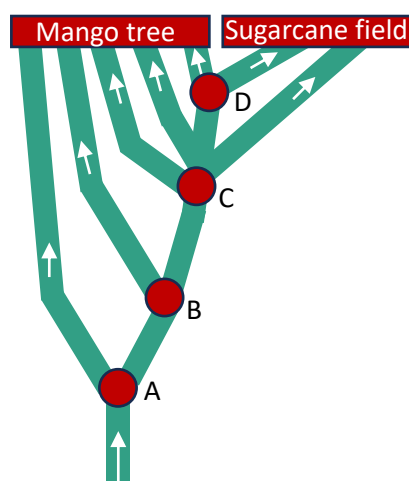
$$\text{Now, } \frac{1}{4} \times \frac{3}{8} = \frac{3}{32}$$

$$\therefore \frac{3}{32} \text{ of the whole square is shaded.}$$

11. A colony of ants set out in search of food. As they search, they keep splitting equally at each point (as shown in the fig.) and reach two food sources, one near a mango tree and another near a sugarcane field. What fraction of the original group reached each food source?



Sol. From the figure, the first split i.e., at branch A, the colony divides into 2 equal parts.



$$\therefore \text{Each part represents a fraction} = \frac{1}{2}$$

So, $\frac{1}{2}$ of whole ants reaches to the mango tree.

Again, the branch B divides into 2 parts.

$$\therefore \text{Each part represents a fraction} =$$

$$\frac{1}{2} \div 2 = \frac{1}{4}$$

So, $\frac{1}{4}$ of $\frac{1}{2}$ ants reaches to the mango tree.

Again, the branch C divides into 4 parts.

∴ Each part represents a fraction

$$= \frac{1}{4} \div 4 = \frac{1}{16}$$

So, $\frac{2}{16}$ of $\frac{1}{4}$ ants reaches to mango tree

and $\frac{1}{16}$ of $\frac{1}{4}$ ants reaches to sugarcane.

Again, the branch D divides into 2 parts.

∴ Each part represents a fraction

$$= \frac{1}{16} \div 2 = \frac{1}{32}$$

So, $\frac{1}{32}$ of $\frac{1}{16}$ ants reaches to mango tree

and $\frac{1}{32}$ of $\frac{1}{16}$ ants reaches to sugarcane.

∴ Total fraction of the original colony who reached mango tree

$$= \frac{1}{2} + \frac{1}{4} + \frac{2}{16} + \frac{1}{32} = \frac{16+8+4+1}{32} = \frac{29}{32}$$

and total fraction of the original colony who reached sugarcane field

$$= \frac{1}{16} + \frac{1}{32} = \frac{2+1}{32} = \frac{3}{32}$$

12. What is $1 - \frac{1}{2}$?

$$\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) ?$$

$$\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \left(1 - \frac{1}{5}\right) ?$$

$$\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \left(1 - \frac{1}{5}\right) \times \left(1 - \frac{1}{6}\right)$$

$$\times \left(1 - \frac{1}{7}\right) \times \left(1 - \frac{1}{8}\right) \times \left(1 - \frac{1}{9}\right) \times \left(1 - \frac{1}{10}\right) ?$$

Make a general statement and explain.

Sol. We have,

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

$$\text{Then, } \left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) = \frac{1}{2} \times \frac{2}{3} = \frac{1}{3}$$

Next,

$$\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \left(1 - \frac{1}{5}\right)$$

$$= \frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} = \frac{1}{5}$$

And

$$\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \left(1 - \frac{1}{5}\right) \times \left(1 - \frac{1}{6}\right)$$

$$\times \left(1 - \frac{1}{7}\right) \times \left(1 - \frac{1}{8}\right) \times \left(1 - \frac{1}{9}\right) \times \left(1 - \frac{1}{10}\right)$$

$$= \frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \frac{5}{6} \times \frac{6}{7} \times \frac{7}{8} \times \frac{8}{9} \times \frac{9}{10} = \frac{1}{10}$$

The general expression is

$$\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \dots \times \left(1 - \frac{1}{n}\right)$$

Now, from above calculations, we have

$$\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \dots \times \frac{n-1}{n}$$

$$\therefore \text{ The value of expression } = \frac{1}{n}$$