

# CLASS NOTES

CLASS: VI

DATE: 01/10/2021

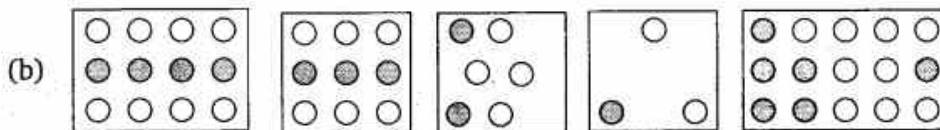
SUBJECT: MATHEMATICS

TOPIC: FRACTION

## Chapter - 7 (Fraction) EXERCISE - 7.3

Q.1 Write the fractions. Are all these fractions equivalent?

Solution:



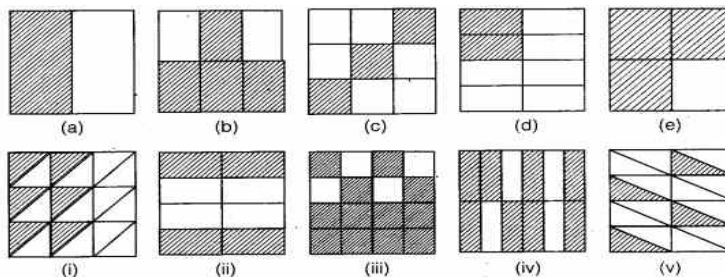
The given figures represent the fractions  $\frac{4}{12}$ ,  $\frac{3}{9}$ ,  $\frac{2}{6}$ ,  $\frac{1}{3}$  and  $\frac{6}{15}$

Now,  $\frac{4}{12} = \frac{4 \div 4}{12 \div 4} = \frac{1}{3}$ ,  $\frac{3}{9} = \frac{3 \div 3}{9 \div 3} = \frac{1}{3}$

$\frac{6}{15} = \frac{6 \div 3}{15 \div 3} = \frac{2}{5}$  and  $\frac{2}{6} = \frac{2 \div 2}{6 \div 2} = \frac{1}{3}$

Thus,  $\frac{4}{12}$ ,  $\frac{3}{9}$ ,  $\frac{1}{3}$ ,  $\frac{2}{6}$  and  $\frac{6}{15}$  are not equivalent fractions.

Q.2 Write the fractions and pair up the equivalent fractions from each row.



Solution:

Fractions represented by the given figures are as under:

**Row I :**

(a)  $\frac{1}{2}$       (b)  $\frac{4}{6} = \frac{2}{3}$       (c)  $\frac{3}{9} = \frac{1}{3}$       (d)  $\frac{2}{8} = \frac{1}{4}$       (e)  $\frac{3}{4}$

**Row II:**

(i)  $\frac{6}{18} = \frac{6 \div 6}{18 \div 6} = \frac{1}{3}$       (ii)  $\frac{4}{8} = \frac{4 \div 4}{8 \div 4} = \frac{1}{2}$       (iii)  $\frac{12}{16} = \frac{12 \div 4}{16 \div 4} = \frac{3}{4}$

(iv)  $\frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$       (v)  $\frac{4}{16} = \frac{4 \div 4}{16 \div 4} = \frac{1}{4}$

On pairing up the equivalent fractions from row I and II, we have

(a) - (ii)      (b) - (iv)      (c) - (i)  
 (d) - (v)      (e) - (iii).

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Q. 3 Replace  in each of the following by the correct number:

Solution:

$$28 \mid \frac{2}{7} = \frac{8}{\square}$$

or  $2 \times \square = 8 \times 7$

or  $\square = \frac{8 \times 7}{2} = 4 \times 7 = 28$

$\therefore \frac{2}{7} = \frac{8}{28}$

(b)  $\frac{5}{8} = \frac{10}{\square}$

or  $5 \times \square = 10 \times 8$

or  $\square = \frac{10 \times 8}{5} = 2 \times 8 = 16$

$\therefore \frac{5}{8} = \frac{10}{16}$

(d)  $\frac{45}{60} = \frac{15}{\square}$

or  $45 \times \square = 15 \times 60$

or  $\square = \frac{15 \times 60}{45} = 1 \times 20 = 20$

$\therefore \frac{45}{60} = \frac{15}{20}$

(e)  $\frac{18}{24} = \frac{\square}{4}$

or  $18 \times 4 = 24 \times \square$

or  $\square = \frac{18 \times 4}{24} = 3 \times 1 = 3$

$\therefore \frac{18}{24} = \frac{3}{4}$

Q.4 Find the equivalent fraction of  $\frac{3}{5}$  having. (a.) Denominator 20 (d.) Numerator 27

Solution:

(a)  $\therefore 20 \div 5 = 4$

$\therefore$  We multiply the numerator and denominator by 4.

$$\frac{3}{5} = \frac{3 \times 4}{5 \times 4} = \frac{12}{20}$$

(d)  $\therefore 27 \div 3 = 9$

$\therefore$  We multiply the numerator and denominator by 9

$$\frac{3}{5} = \frac{3 \times 9}{5 \times 9} = \frac{27}{45}$$

Q.5 Find the equivalent fraction of  $\frac{36}{48}$  having - (a.) Numerator 9 (b.) Denominator 4

Solution: (a)  $36 \div 9 = 4$

We divide the numerator and denominator by 4

$$\frac{36}{48} = \frac{36 \div 4}{48 \div 4} = \frac{9}{12}$$

(b)  $48 \div 4 = 12$

We divide the numerator and denominator by 12

$$\frac{36}{48} = \frac{36 \div 12}{48 \div 12} = \frac{3}{4}$$

Q.6 Check whether the given fractions are equivalent:

Solution:

(a)  $\frac{5}{9}$  and  $\frac{30}{54}$

$5 \times 54 = 270$  and  $9 \times 30 = 270$

$\therefore 5 \times 54 = 9 \times 30$

Thus,  $\frac{5}{9}$  and  $\frac{30}{54}$  are equivalent fractions.

(b)  $\frac{3}{10}$  and  $\frac{12}{50}$

$3 \times 50 = 150$  and  $10 \times 12 = 120$

$3 \times 50 \neq 10 \times 12$

Thus,  $\frac{3}{10}$  and  $\frac{12}{50}$  are not equivalent.

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Q.7 Reduce the following fractions to simplest form:

Solution:

(a) To reduce  $\frac{48}{60}$ , we find the HCF of 48 and 60.

We have,

H.C.F. of 48 and 60

$$= 2 \times 2 \times 3 = 12$$

$$\frac{48}{60} = \frac{48 \div 12}{60 \div 12} = \frac{4}{5}$$

2	48
2	24
2	12
2	6
3	3
	1

2	60
2	30
3	15
5	5
	1

$$48 = 2 \times 2 \times 2 \times 2 \times 3, 60 = 2 \times 2 \times 3 \times 5$$

(b) To reduce  $\frac{150}{60}$ , we find the H.C.F. of 150 and 60.

We have,

H.C.F. of 150 and 60

$$= 2 \times 3 \times 5 = 30$$

$$= \frac{150}{60} = \frac{150 \div 30}{60 \div 30} = \frac{5}{2}$$

2	150
3	75
5	25
5	5
	1

2	60
2	30
3	15
5	5
	1

$$150 = 2 \times 3 \times 5 \times 5 \text{ and } 60 = 2 \times 2 \times 3 \times 5$$

(c) To reduce  $\frac{84}{98}$ , we find the H.C.F. of 84 and 98.

We have,

H.C.F. of 84 and 98

$$= 2 \times 7 = 14$$

$$\frac{84}{98} = \frac{84 \div 14}{98 \div 14} = \frac{6}{7}$$

2	84
2	42
3	21
7	7
	1

2	98
7	49
7	7
	1

$$84 = 2 \times 2 \times 3 \times 7 \text{ and } 98 = 2 \times 7 \times 7$$

### Home Work

Ex.-7.3 Q.1-a, Q.3-c, Q.4- b, c, Q.6-c, Q.7 - d,e

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