

To insert a fraction between the two given fractions

**SUBJECT : MATHEMATICS
CHAPTER NUMBER: 03
CHAPTER NAME : FRACTIONS**

CHANGING YOUR TOMORROW

Learning outcomes

Students will be able to insert fraction between two given fractions.



To insert a fraction between the two given fractions

- **Steps** : Add numerators of the given fractions to get the numerator of the required fraction .
- Similarly , Add their denominators to get the denominator of the required fraction .
- Then simplify , if required.

<https://www.youtube.com/watch?v=geFSIAInIpP0> (3:55minutes)

7. Insert one fraction between:

(i) $\frac{3}{7}$ and $\frac{4}{9}$

(ii) 2 and $\frac{8}{3}$

(iii) $\frac{9}{17}$ and $\frac{6}{13}$

Solution:

(i) $\frac{3}{7}$ and $\frac{4}{9}$

So the fraction between $\frac{3}{7}$ and $\frac{4}{9}$

$$= \frac{(3 + 4)}{(7 + 9)}$$

$$= \frac{7}{16}$$

(ii) 2 and $\frac{8}{3}$

So the fraction between 2 and $\frac{8}{3}$

$$= \frac{(2 + 8)}{(1 + 3)}$$

$$= \frac{10}{4}$$

Dividing by 2

$$= \frac{5}{2}$$

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

(iii) $\frac{9}{17}$ and $\frac{6}{13}$

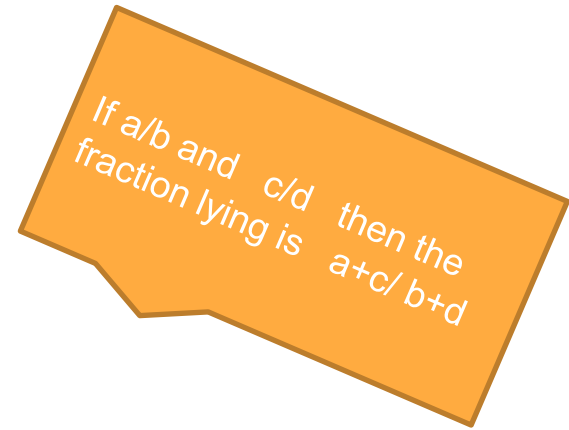
So the fraction between $\frac{9}{17}$ and $\frac{6}{13}$

$$= \frac{(9 + 6)}{(17 + 13)}$$

$$= \frac{15}{30}$$

By division

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



8. Insert three fractions between:

(i) $\frac{2}{5}$ and $\frac{4}{9}$

Solution:

(i) $\frac{2}{5}$ and $\frac{4}{9}$

So the fraction between $\frac{2}{5}$ and $\frac{4}{9}$

$$= \frac{(2 + 4)}{(5 + 9)}$$

By addition

$$= \frac{6}{14}$$

Dividing by 2

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

Fraction between $\frac{2}{5}$ and $\frac{3}{7}$

$$= \frac{(2 + 3)}{(5 + 7)}$$

$$= \frac{5}{12}$$

Fraction between $\frac{3}{7}$ and $\frac{4}{9}$

$$= \frac{(3 + 4)}{(7 + 9)}$$

$$= \frac{7}{16}$$

Therefore, three fractions between $\frac{2}{5}$ and $\frac{4}{9}$ will be $\frac{5}{12}$, $\frac{3}{7}$ and $\frac{7}{16}$

8.(ii) $\frac{1}{2}$ and $\frac{5}{7}$

So the fraction between $\frac{1}{2}$ and $\frac{5}{7}$

$$= \frac{(1 + 5)}{(2 + 7)}$$

By addition

$$= \frac{6}{9}$$

Dividing by 3

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

Fraction between $\frac{1}{2}$ and $\frac{2}{3}$

$$= \frac{(1 + 2)}{(2 + 3)}$$

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

Fraction between $\frac{2}{3}$ and $\frac{5}{7}$

$$= \frac{(2 + 5)}{(3 + 7)}$$

$$= \frac{7}{10}$$

Therefore, three fractions between $\frac{1}{2}$ and $\frac{5}{7}$ will be $\frac{3}{5}$, $\frac{2}{3}$ and $\frac{7}{10}$.

9. Insert two fractions between:
(i) 1 and $\frac{3}{11}$

Solution:

(i) 1 and $\frac{3}{11}$

Fraction between 1 and $\frac{3}{11}$

$$= \frac{(1 + 3)}{(1 + 11)}$$

By addition

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

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

Fraction between $\frac{1}{3}$ and $\frac{3}{11}$

$$= \frac{(1 + 3)}{(3 + 11)}$$

By addition

$$= \frac{4}{14}$$

Dividing by 2

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

Therefore, two fractions between 1 and $\frac{3}{11}$ will be $\frac{1}{3}$ and $\frac{2}{7}$.

THANKING YOU
ODM EDUCATIONAL GROUP