

Maharashtra Board Solutions Class 5-Maths

(Problem Set 17) - Part 1: Chapter 5-

Fractions



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Maharashtra Board Solutions Class 5-Maths

(Problem Set 17) - Part 1: Chapter 5-

Fractions

Class 5: Maths Chapter 5 solutions. Complete Class 5 Maths Chapter 5 Notes.

Maharashtra Board Solutions Class 5-Maths (Problem Set 17) - Part 1: Chapter 5- Fractions

Maharashtra Board 5th Maths Chapter 5, Class 5 Maths Chapter 5 solutions

Important Questions and Answers.

Question 1.

Write the proper number in the box.

$$(1) \frac{1}{2} = \frac{\boxed{}}{20}$$

Answer:

Here $20 = 2 \times 10$

$$\therefore \frac{1}{2} = \frac{1 \times 10}{2 \times 10} = \frac{\boxed{10}}{20}$$

$$(2) \frac{3}{4} = \frac{15}{\boxed{}}$$

Answer:

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Here $15 = 3 \times 5$

$$\therefore \frac{3}{4} = \frac{3 \times 5}{4 \times 5} = \frac{15}{\boxed{20}}$$

$$(3) \frac{9}{11} = \frac{18}{\boxed{}}$$

Answer:

Here $18 = 9 \times 2$

$$\text{hehce, } \frac{4}{20} = \frac{4 \div 4}{20 \div 4} = \frac{1}{\boxed{5}}$$

$$(4) \frac{10}{40} = \frac{\boxed{}}{8}$$

Answer:

Here $40 \div 5 = 8$,

$$\text{hence, } \frac{4 \div 2}{6 \div 2} = \frac{\boxed{2}}{3}$$

$$(5) \frac{14}{26} = \frac{\boxed{}}{13}$$

Answer:

Here $26 \div 2 = 13$,

$$\text{hence, } \frac{14}{26} = \frac{14 \div 2}{26 \div 2} = \frac{\boxed{7}}{13}$$

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$$(6) \frac{\square}{3} = \frac{4}{6}$$

Answer:

Here $6 \div 2 = 3$,

$$\text{hence, } \frac{10}{40} = \frac{10 \div 5}{40 \div 5} = \frac{\boxed{2}}{8}$$

$$(7) \frac{1}{\square} = \frac{4}{20}$$

Answer:

Here $4 \div 4 = 1$,

$$\text{hence, } \frac{9}{11} = \frac{9 \times 2}{11 \times 2} = \frac{18}{\boxed{22}}$$

$$(8) \frac{\square}{5} = \frac{10}{25}$$

Answer:

Here $25 \div 5 = 5$,

$$\text{hence, } \frac{10}{25} = \frac{10 \div 5}{25 \div 5} = \frac{\boxed{2}}{5}$$

Question 2.

Find an equivalent fraction with denominator 18, for each of the following fractions.

$$\frac{1}{2}, \frac{2}{3}, \frac{4}{6}, \frac{2}{9}, \frac{7}{9}, \frac{5}{3}$$

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Solution:

$$(1) \quad \frac{1}{2} = \frac{1 \times 9}{2 \times 9} = \frac{9}{18}$$

$$(2) \quad \frac{2}{3} = \frac{2 \times 6}{3 \times 6} = \frac{12}{18}$$

$$(3) \quad \frac{4}{6} = \frac{4 \times 3}{6 \times 3} = \frac{12}{18}$$

$$(4) \quad \frac{2}{9} = \frac{2 \times 2}{9 \times 2} = \frac{4}{18}$$

$$(5) \quad \frac{7}{9} = \frac{7 \times 2}{9 \times 2} = \frac{14}{18}$$

$$(6) \quad \frac{5}{3} = \frac{5 \times 6}{3 \times 6} = \frac{30}{18}$$

Question 3.

Find an equivalent fraction with denominator 5, for each of the following fractions.

$$\frac{6}{15}, \frac{10}{25}, \frac{12}{30}, \frac{6}{10}, \frac{21}{35}$$

Solution:

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$$\frac{6}{15} = \frac{\square}{5}, 15 \div 3 = 5, \text{Hence, } \frac{6}{15} = \frac{6 \div 3}{15 \div 3} = \frac{\boxed{2}}{5}$$

$$\frac{10}{25} = \frac{\square}{5}, 25 \div 5 = 5, \text{Hence, } \frac{10}{25} = \frac{10 \div 5}{25 \div 5} = \frac{\boxed{2}}{5}$$

$$\frac{12}{30} = \frac{\square}{5}, 30 \div 6 = 5, \text{Hence, } \frac{12}{30} = \frac{12 \div 6}{30 \div 6} = \frac{\boxed{2}}{5}$$

$$\frac{6}{10} = \frac{\square}{5}, 10 \div 2 = 5, \text{Hence, } \frac{6}{10} = \frac{6 \div 2}{10 \div 2} = \frac{\boxed{3}}{5}$$

$$\frac{21}{35} = \frac{\square}{5}, 35 \div 7 = 5, \text{Hence, } \frac{21}{35} = \frac{21 \div 7}{35 \div 7} = \frac{\boxed{3}}{5}$$

Question 4.

From the fractions given below, pair off the equivalent fractions.

$$\frac{2}{3}, \frac{5}{7}, \frac{5}{11}, \frac{7}{9}, \frac{14}{18}, \frac{15}{33}, \frac{18}{27}, \frac{10}{14}$$

Solution:

$$\frac{2}{3} = \frac{18}{27}; \quad \frac{5}{7} = \frac{10}{14}; \quad \frac{5}{11} = \frac{15}{33}; \quad \frac{7}{9} = \frac{14}{18}$$

Question 5.

Find two equivalent fractions for each of the following fractions.

$$\frac{7}{9}, \frac{4}{5}, \frac{3}{11}$$

Solution:

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$$(1) \quad \frac{2}{5} = \frac{12}{\boxed{}}, 2 \times 6 = 12. \text{ Hence, } \frac{2}{5} = \frac{2 \times 6}{5 \times 6} = \frac{12}{\boxed{30}}$$

$$(2) \quad \frac{3}{4} = \frac{12}{\boxed{}}, 3 \times 4 = 12. \text{ Hence, } \frac{3}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{\boxed{16}}$$

$$(3) \quad \frac{4}{7} = \frac{12}{\boxed{}}, 4 \times 3 = 12. \text{ Hence, } \frac{4}{7} = \frac{4 \times 3}{7 \times 3} = \frac{12}{\boxed{21}}$$

$$(4) \quad \frac{6}{11} = \frac{12}{\boxed{}}, 6 \times 2 = 12. \text{ Hence, } \frac{6}{11} = \frac{6 \times 2}{11 \times 2} = \frac{12}{\boxed{22}}$$

Like fractions and unlike fractions

Fractions such as $\frac{17}{47}, \frac{67}{47}$ whose denominators are equal, are called 'like fractions'.

Fractions such as $\frac{13}{48}, \frac{911}{911}$ which have different denominators are called unlike fractions'.

Converting unlike fractions into like fractions

Example (1) Convert $\frac{5}{6}$ and $\frac{7}{9}$ into like fractions.

Here, we must find a common multiple for the numbers 6 and 9.

Multiples of 6 : 6, 12, 18, 24, 30, 36,

Multiples of 9 : 9, 18, 27, 36, 45

Here, the number 18 is a multiple of both 6 and 9. So, let us make 18 the denominator of both fractions.

$$\frac{5}{6} = \frac{5 \times 3}{6 \times 3} = \frac{15}{18} \qquad \frac{7}{9} = \frac{7 \times 2}{9 \times 2} = \frac{14}{18}$$

Thus, $\frac{15}{18}$ and $\frac{14}{18}$ are like fractions, respectively equivalent to $\frac{5}{6}$ and $\frac{7}{9}$.

Here, 18 is a multiple of both 6 and 9. We could also choose numbers like 36 and 54 as the common denominators.

Example (2) Convert $\frac{4}{8}$ and $\frac{5}{16}$ into like fractions.

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As 16 is twice 8, it is easy to make 16 the common denominator.

$48 = 4 \times 28 \times 2 = 816$ Thus, $8/16$ and $5/16$ are the required like fractions.

Example (3) Find a common denominator for $4/7$ and $3/4$.

The number 28 is a multiple of both 7 and 4. So, make 28 the common denominator.

$\frac{4}{7} = \frac{4 \times 4}{7 \times 4} = \frac{16}{28}$, $\frac{3}{4} = \frac{3 \times 7}{4 \times 7} = \frac{21}{28}$. Therefore, $16/28$ and $21/28$ are the required like fractions.

Additional Important Questions and Answers

Question 1.

Find two equivalent fractions for each of the following fraction:

(1) $\frac{7}{9}$ (2) $\frac{4}{5}$ (3) $\frac{3}{11}$ (4) $\frac{12}{13}$ (5) $\frac{15}{17}$

Solution:

(1) $\frac{7}{9} = \frac{7 \times 2}{9 \times 2} = \frac{14}{18}$, $\frac{7}{9} = \frac{7 \times 4}{9 \times 4} = \frac{28}{36}$

(2) $\frac{4}{5} = \frac{4 \times 3}{5 \times 3} = \frac{12}{15}$, $\frac{4}{5} = \frac{4 \times 5}{5 \times 5} = \frac{20}{25}$

(3) $\frac{3}{11} = \frac{3 \times 8}{11 \times 8} = \frac{24}{88}$, $\frac{3}{11} = \frac{3 \times 3}{11 \times 3} = \frac{9}{33}$

(4) $\frac{12}{13} = \frac{12 \times 5}{13 \times 5} = \frac{60}{65}$, $\frac{12}{13} = \frac{12 \times 7}{13 \times 7} = \frac{84}{91}$

(5) $\frac{15}{17} = \frac{15 \times 2}{17 \times 2} = \frac{30}{34}$, $\frac{15}{17} = \frac{15 \times 5}{17 \times 5} = \frac{75}{85}$

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The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

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FAQs

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How many state boards are there in Maharashtra?

The Maharashtra State Board of Secondary & Higher Secondary Education, conducts the HSC and SSC Examinations in the state of Maharashtra through its nine Divisional Boards located at Pune, Mumbai, Aurangabad, Nasik, Kolhapur, Amravati, Latur, Nagpur and Ratnagiri.

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