Chapter – 6

Fractions

Ex 6.1

Question 1.

Write the fraction shown by the shaded parts.



Answ 3/9

Question 2.

Write the fractions for the following and find the numerator and the denominator.

(i) Sheeki got 12 marks out of 20 marks in science.

Answer: 12/20; Numerator = 12; Denominator = 20

(ii) Six fruits are rotten out of forty fruits in a basket.

Answer:

6/40; Numerator = 6; Denominator = 40

(iii) In a colony of 50 houses. 17 houses are not occupied.

Answer:

17/50; Numerator = 17; Denominator = 50

Question 3.

Find out which is greater in the following fractions.

(i)
$$\frac{5}{12}$$
 and $\frac{7}{12}$
(ii) $\frac{22}{48}$ and $\frac{17}{48}$
(iii) $\frac{11}{56}$ and $\frac{27}{56}$

(i)
$$\frac{5}{12}$$
 and $\frac{7}{12}$
 $5 < 7$
 $\therefore \frac{5}{12} < \frac{7}{12}$
 $\frac{7}{12}$ is greater
(ii) $\frac{22}{48}$ and $\frac{17}{48}$
 $22 > 17$

$\therefore \frac{22}{48} > \frac{17}{48}$
$\frac{22}{48}$ is greater.
(:::) 11 and 27
(iii) $\frac{1}{56}$ and $\frac{1}{56}$
$\therefore \frac{11}{12} < \frac{27}{12}$
$\frac{56}{56}$ 56
11 < 27 is greater

Question 4.

Which is smaller in the following fraction?

(i) $\frac{10}{42}$ and $\frac{21}{42}$ (ii) $\frac{31}{37}$ and $\frac{15}{37}$

Answer:

(i) $\frac{10}{42}$ and $\frac{21}{42}$ 10 < 21 $\frac{10}{42} < \frac{21}{42}$ $\frac{10}{42}$ is smaller (ii) $\frac{31}{37}$ and $\frac{15}{37}$ 15 < 31 $\frac{31}{37} < \frac{15}{37}$ $\frac{15}{37}$ is smaller

Ex 6.2

Question 1.

Write the suitable number in the box.

$$\frac{1}{2} = \frac{\Box}{8}$$

$\frac{1}{2} =$	$=\frac{1\times4}{2\times4}=$	4
- (ii)		0
3	= /	
Ans	wer:	7

1	1×7	/
3	3×7	21
<i>(</i> ;;;)		

 $\frac{9}{11} = \frac{18}{\Box}$

Answer:

9	_9×2	18
11	11×2	22

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

5	5÷5	1
15	15÷5	3
(v) <u>14</u> 26	= 🗍	

Answer: $\frac{14}{26} = \frac{14 \div 2}{26 \div 2} = \frac{7}{13}$ (vi) (vi)

Answer:

8	$8 \div 4$	2
16	$16 \div 4$	4
(vii)		
$\frac{1}{\Box}$	$=\frac{7}{28}$	

Answer:

$\frac{7}{29} =$	$\frac{7 \div 7}{28 \div 7}$	1
28	28÷7	4
(viii) = 5	<u>15</u> 25	
Answ	ver:	

 $\frac{15}{25} = \frac{15 \div 5}{25 \div 5} = \frac{3}{5}$

Question 2.

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

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

1	_	1×9	_	9
2		2×9		18
2		$2{ imes}6$		12
3	_	3×6	_	18
4		3×4		12
6	_	3×6		18
2	_	$2{ imes}2$	_	4
9	_	9×2		18
7	_	$7{ imes}2$	_	14
9	_	9×2		18
5	_	$5{ imes}6$		30
3		3×6		18

Question 3.

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

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

Answer:

6	_	$6 \div 3$	_	2
15		$\overline{15 \div 3}$		5
10		$10 \div 5$		2
25		$\overline{25\div5}$		5
12	_	$12 \div 6$	_	2
30	_	$\overline{30\div6}$	_	5
6		$6{\div}2$	_	3
10		$\overline{10\div 2}$		5
21	_	$21 \div 7$	_	3
35		$35\div7$		5

Ex 6.3

Question 1. Convert the following into like fractions

(i) $\frac{1}{4}, \frac{3}{8}$

As 8 is twice 4, make 8 the common denominator.

 $\frac{1}{4} = \frac{1 \times 2}{4 \times 2} = \frac{2}{8}$ Thus $\frac{2}{8}$ and $\frac{3}{8}$ are the required like fractions.

(ii) $\frac{2}{5}, \frac{1}{7}$

Answer:

The number 35 is a multiple of both 7 and 5

$$\begin{array}{l} \frac{2}{5} = \frac{2 \times 7}{5 \times 7} = \frac{14}{35} \\ \frac{1}{7} = \frac{1 \times 5}{7 \times 5} = \frac{5}{35} \end{array}$$

Therefore $\frac{14}{35}$ and $\frac{5}{35}$ are the required like fraction

(iii) $\frac{2}{5}, \frac{3}{10}$

Answer:

As 10 is twice 5, make 10 the common denominator

 $\frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10}$ Thus $\frac{4}{10}$ and $\frac{3}{10}$ are the required like fractions.

(iv) $\frac{2}{7}, \frac{1}{6}$

Answer:

The number 42 is a multiple of both 7 and 6 so make 42 the common denominator.

$$\frac{2}{7} = \frac{2 \times 6}{7 \times 6} = \frac{12}{42}$$
$$\frac{1}{6} = \frac{1 \times 7}{6 \times 7} = \frac{7}{42}$$
Therefore $\frac{12}{42}$ and $\frac{7}{42}$ are the required like fractions.

(v) $\frac{1}{3}, \frac{3}{4}$

The number 12 is a multiple of both 3 and 4 so make 12 the common denominator

$$\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$$
$$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$
Therefore $\frac{4}{12}$ and $\frac{9}{12}$ are the required like fractions.

(vi) $\frac{5}{6}, \frac{4}{5}$

Answer:

The number 30 is a multiple of both 6 and 5, so make 30 the common denominator.

 $\begin{array}{l} \frac{5}{6} = \frac{5 \times 5}{6 \times 5} = \frac{25}{30} \\ \frac{4}{5} = \frac{4 \times 6}{5 \times 6} = \frac{24}{30} \\ \end{array}$ Therefore $\frac{25}{30}$ and $\frac{24}{30}$ are the required like fractions.

(vii)
$$\frac{1}{8}, \frac{3}{7}$$

Answer:

The number 56 is a multiple of both 8 and 7. so make 56 the common denominator.

$$\frac{\frac{1}{8} = \frac{1 \times 7}{8 \times 7} = \frac{7}{56}}{\frac{3}{7} = \frac{3 \times 8}{7 \times 8} = \frac{24}{56}}$$

Therefore $\frac{7}{56}$ and $\frac{24}{56}$ are the required like fractions.

(viii) $\frac{1}{6}, \frac{4}{9}$

Answer:

Multiples of 6 : 6, 12, 18, 24, 30, 36, Multiples of 9 : 9, 18, 27, 36, 45, Smallest common multiple 18

 $\frac{\frac{1}{5}}{\frac{1}{5}} = \frac{\frac{1\times3}{6\times3}}{\frac{4\times2}{9\times2}} = \frac{\frac{3}{18}}{\frac{1}{18}}$ $\frac{\frac{4}{9}}{\frac{4\times2}{9\times2}} = \frac{\frac{8}{18}}{\frac{1}{18}}$ There fore $\frac{3}{18}$ and $\frac{8}{18}$ are the required like fractions.

Ex 6.4

Question 1. Write the proper symbol from <, >, or = in the box

(i) $\frac{3}{5} - \frac{2}{5}$

Answer:

 $\frac{3}{5} > \frac{2}{5}$ (ii) $\frac{2}{8} = \frac{1}{8}$ Answer: $\frac{2}{8} > \frac{1}{8}$ (iii) $\frac{2}{11} = \frac{10}{11}$ Answer: $\frac{2}{11} < \frac{10}{11}$ (iv) $\frac{3}{15} = \frac{10}{30}$ Answer: $\frac{3}{15} = \frac{3 \times 2}{15 \times 2} = \frac{6}{30}$ $\frac{6}{30} < \frac{10}{30}$ $\frac{3}{15} < \frac{10}{30}$

(v) $\frac{3}{8} - \frac{3}{7}$
Answer:
$\frac{\frac{3}{8} = \frac{3 \times 7}{8 \times 7} = \frac{21}{56}}{\frac{3}{7} = \frac{3 \times 8}{7 \times 8} = \frac{24}{56}}$ $\frac{\frac{21}{56}}{\frac{56}{3} < \frac{24}{56}} < \frac{24}{56}$
(vi) $\frac{4}{7} - \frac{4}{11}$
Answer:
$\frac{4}{7} = \frac{4 \times 11}{7 \times 11} = \frac{44}{77}$ $\frac{4}{11} = \frac{4 \times 7}{11 \times 7} = \frac{28}{77}$ $\frac{44}{77} \longrightarrow \frac{28}{77}$ $\frac{4}{7} \longrightarrow \frac{4}{11}$
(vii) $\frac{5}{12} - \frac{1}{6}$
Answer:
$\frac{\frac{1}{6} = \frac{1 \times 2}{6 \times 2} = \frac{2}{12}}{\frac{5}{12} \longrightarrow \frac{2}{12}}$ $\frac{\frac{5}{12} \longrightarrow \frac{2}{12}}{\frac{5}{12} \longrightarrow \frac{1}{6}}$ $\frac{3}{7} \stackrel{<}{\longrightarrow} \frac{5}{9}$
(viii) $\frac{4}{9} - \frac{4}{9}$
Answer:
$\frac{4}{9} = \frac{4}{9}$



Ex 6.5

Question 1. Add the following fractions

(i)
$$\frac{1}{5} + \frac{3}{5}$$

$$\frac{\frac{1}{5} + \frac{3}{5} = \frac{1+3}{5} = \frac{4}{5}}{(ii)\frac{1}{7} + \frac{3}{7}}$$
(ii) $\frac{1}{7} + \frac{3}{7}$
Answer:
 $\frac{1}{7} + \frac{3}{7} = \frac{1+3}{7} = \frac{4}{7}$

(iii) $\frac{5}{12} + \frac{2}{12}$ Answer: $\frac{5}{12} + \frac{2}{12} = \frac{5+2}{12} = \frac{7}{12}$ (iv) $\frac{3}{9} + \frac{7}{9}$ Answer: $\frac{3}{9} + \frac{7}{9} = \frac{3+7}{9} = \frac{10}{9}$ $(v) \frac{2}{15} + \frac{3}{15}$ Answer: $\frac{2}{15} + \frac{3}{15} = \frac{2+3}{15} = \frac{5}{15}$ (vi) $\frac{2}{7} + \frac{1}{7} + \frac{3}{7}$ Answer: $\frac{2}{7} + \frac{1}{7} + \frac{3}{7} = \frac{2+1+3}{7} = \frac{6}{7}$ (vii) $\frac{3}{10} + \frac{5}{10} + \frac{2}{10}$ Answer: $\frac{3}{10} + \frac{5}{10} + \frac{2}{10} = \frac{3+5+2}{10} = \frac{10}{10} = 1$ (viii) $\frac{2}{9} + \frac{1}{9}$ Answer: $\frac{2}{9} + \frac{1}{9} = \frac{2+1}{9} = \frac{3}{9}$

(ix) $\frac{3}{8} + \frac{2}{8}$

Answer:

 $\frac{3}{8} + \frac{2}{8} = \frac{3+2}{8} = \frac{5}{8}$

Question 2.

Mother gave 2/8 of guava to Meena and 3/8 of guava to Geetha. How many parts of the guava did she give them altogether?

Answer:

Meena get = $\frac{2}{8}$ Geeta get = $\frac{3}{8}$ Sum = $\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

Question 3.

The girls of Std V cleaned 3/5 of a field, while the boys cleaned 1/5 part of the field. What part of the field was cleaned altogether?

Answer:

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Girls cleaned = \frac{3}{5}
Boys cleaned = \frac{1}{5}
Sum = \frac{3}{5} + \frac{1}{5} = \frac{4}{5}
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Ex 6.6

Question 1. Subtract the following.

(i)
$$\frac{4}{7} - \frac{1}{7}$$

$$\frac{4}{7} - \frac{1}{7} = \frac{4-1}{7} = \frac{3}{7}$$

(ii) $\frac{4}{8} - \frac{3}{8}$ Answer: $\frac{4}{8} - \frac{3}{8} = \frac{4-3}{8} = \frac{1}{8}$ (iii) $\frac{5}{9} - \frac{1}{9}$ Answer: $\frac{5}{9} - \frac{1}{9} = \frac{5-1}{9} = \frac{4}{9}$ (iv) $\frac{7}{11} - \frac{3}{11}$ Answer: $\frac{7}{11} - \frac{3}{11} = \frac{7-3}{11} = \frac{4}{11}$ (v) $\frac{7}{13} - \frac{4}{13}$ Answer: $\frac{7}{13} - \frac{4}{13} = \frac{7-4}{13} = \frac{3}{13}$ (vi) $\frac{5}{10} - \frac{3}{10}$ Answer: $\frac{5}{10} - \frac{3}{10} = \frac{5-3}{10} = \frac{2}{10}$ (vii) $\frac{7}{12} - \frac{2}{12}$ Answer: $\frac{7}{12} - \frac{2}{12} = \frac{7-2}{12} = \frac{5}{12}$

(viii) $\frac{8}{15} - \frac{2}{15}$ Answer: $\frac{8}{15} - \frac{2}{15} = \frac{8-2}{15} = \frac{6}{15}$

Question 2.

5/10 of a wall is to be painted. Ramu painted 2/10 of it. How much more is to be painted?

Answer:

To be painted = $\frac{5}{10}$ Ramu painted = $\frac{2}{10}$ Difference = $\frac{5}{10} - \frac{2}{10} = \frac{5-2}{10} = \frac{3}{10}$

Ex 6.7

Question 1. Multiply the following

(i) 1/7 × 4

Answer:

 $\frac{1 \times 4}{7} = \frac{4}{7}$ (ii) $\frac{3}{8} \times 5$ Answer: $\frac{3 \times 5}{8} = \frac{15}{8}$ (iii) $\frac{7}{11} \times 6$ Answer: $\frac{7 \times 6}{11} = \frac{42}{11}$ (iv) $\frac{21}{50} \times 2$ Answer: $\frac{21 \times 2}{50} = \frac{42}{50}$ (v) $\frac{15}{32} \times 3$ Answer: $\frac{15 \times 3}{32} = \frac{45}{32}$

Question 2.

John has 300 ml of water in a glass and he drinks 2/3ml of water. How many ml of water does he drink?

Answer:

Water in glass = 300 ml $\frac{2}{3}$ ml of water = $\frac{2}{3} \times 300 = \frac{2 \times 300}{3} = \frac{600}{3}$ = 200 $\frac{200}{3600}$ $\frac{6}{0}$

Ex 6.8

Question 1. Write the following decimals in words

(i) 0.5 = _____

Answer: Zero point five

(ii) 0.8 = _____

Answer: Zero point eight

(iii) 3.5 = _____

Answer: Three point five

(iv) 6.9 = _____

Answer: Six point five

Question 2. Express the following fractions as decimals.

(i) 4/10

Answer:

4/10 = 0.4

(ii) 12/10

Answer:

12/10 = 1.2

(iii) 23/10

Answer:

23/10 = 2.3

(iv) 146/10

Answer:

146/10 = 14.6

Question 3. Express the following decimals as fractions.

(i) 38.9

Answer: 38.9 = 389/10

(ii) 9.8

Answer: 9.8 = 98/10

(iii) 10.4

Answer: 10.4 = 104/10

(iv) 0.8

Answer: 0.8 = 8/10

InText Questions

Try This (Text Book Page No. 47)

Question 1. Represent the crossed-out part as a fraction.

Answer: 2/5

Question 2. Represent the figures that are outside the circle as a fraction.



2/5

Try This (Text Book Page No. 48)

(i) In 3/7, ____ is the numerator and ____ is the denominator.

Answer:

3, 7

(ii) In 6/10, _____ is the numerator and _____ is the denominator.

Answer:

6, 10