Exercise 5C

Q5

Answer :

(i) Let $\frac{6}{11} = \frac{\square}{77}$

Clearly, 77 = 11 × 7

So, we multiply the numerator by 7.

$\therefore \frac{6}{11} = \frac{6\times7}{11\times7} = \frac{42}{77}$

Hence, the required fraction is $\frac{42}{77}$.

(ii) Let $\frac{6}{11} = \frac{60}{\square}$

Clearly, 60 = 6 × 10

So, we multiply the denominator by 10.

$\therefore \frac{6}{11} = \frac{6\times10}{11\times10} = \frac{60}{110}$

Hence, the required fraction is $\frac{60}{110}$.

Q6

Answer :

Let $\frac{24}{30} = \frac{4}{\square}$

Clearly, 4 = 24 ÷ 6

So, we divide the denominator by 6.

$\therefore \frac{24}{30} = \frac{24\div6}{30\div6} = \frac{4}{5}$

Hence, the required fraction is $\frac{4}{5}$.

Q7

Answer :

(i) Let $\frac{36}{48} = \frac{9}{\square}$

Clearly, 9 = 36 ÷ 4

So, we divide the denominator by 4.

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

Hence, the required fraction is $\frac{9}{12}$.

(ii) Let $\frac{36}{48} = \frac{\square}{4}$

Clearly, 4 = 48 ÷ 12

So, we divide the numerator by 12.

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

Hence, the required fraction is $\frac{3}{4}$.

Q8

Answer :

(i) Let $\frac{56}{70} = \frac{4}{\square}$

Clearly, 4 = 56 ÷ 14

So, we divide the denominator by 14.

$\therefore \frac{56}{70} = \frac{56 \div 14}{70 \div 14} = \frac{4}{5}$

Hence, the required fraction is $\frac{4}{5}$.

(ii) Let $\frac{56}{70} = \frac{\square}{10}$

Clearly, 10 = 70 ÷ 7

So, we divide the numerator by 7.

$\therefore \frac{56}{70} = \frac{56 \times 7}{70 \times 7} = \frac{8}{10}$

Hence, the required fraction is $\frac{8}{10}$.

Q9

Answer :

(i) Here, numerator = 9 and denominator = 15

Factors of 9 are 1, 3 and 9.

Factors of 15 are 1, 3, 5 and 15.

Common factors of 9 and 15 are 1 and 3.

H.C.F. of 9 and 15 is 3.

$\therefore \frac{9}{15} = \frac{9 \div 3}{15 \div 3} = \frac{3}{5}$

Hence, the simplest form of $\frac{9}{15}$ **is** $\frac{3}{5}$.

(ii) Here, numerator = 48 and denominator = 60

Factors of 48 are 1, 2, 3, 4, 6, 8, 12, 16, 24 and 48.

Factors of 60 are 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60.

Common factors of 48 and 60 are 1, 2, 3, 4, 6 and 12.

H.C.F. of 48 and 60 is 12.

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

Hence, the simplest form of $\frac{48}{60}$ **is** $\frac{4}{5}$.

Q10

Answer :

(i) Here, numerator = 8 and denominator = 11

Factors of 8 are 1, 2, 4 and 8.

Factors of 11 are 1 and 11.

Common factor of 8 and 11 is 1.

Thus, H.C.F. of 8 and 11 is 1.

Hence, $\frac{8}{11}$ is the simplest form.

(ii) Here, numerator = 9 and denominator = 14

Factors of 9 are 1, 3 and 9.

Factors of 14 are 1, 2, 7 and 14.

Common factor of 9 and 14 is 1.

Thus, H.C.F. of 9 and 14 is 1.

Hence, $\frac{9}{14}$ is the simplest form.

(iii) Here, numerator = 25 and denominator = 36

Factors of 25 are 1, 5 and 25.

Factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36.

Common factor of 25 and 36 is 1.

Thus, H.C.F. of 25 and 36 is 1.

Hence, $\frac{25}{36}$ is the simplest form.

Q11

Answer :

(i) 28 $\left(\frac{2}{7} = \frac{2\times4}{7\times4} = \frac{8}{28}\right)$

(ii) 21 $\left(\frac{3}{5} = \frac{3\times7}{5\times7} = \frac{21}{35}\right)$

(iii) 32 $\left(\frac{5}{8} = \frac{5\times4}{8\times4} = \frac{20}{32}\right)$

(iv) 12 $\left(\frac{45}{60} = \frac{45\div5}{60\div5} = \frac{9}{12}\right)$

(v) 5 $\left(\frac{40}{56} = \frac{40\div8}{56\div8} = \frac{5}{7}\right)$

(vi) 9 $\left(\frac{42}{54} = \frac{42\div6}{54\div6} = \frac{7}{9}\right)$

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