

EXERCISE 11E

Simplify:

1. $x/2 + x/4$

Solution:

$$\begin{aligned} & x/2 + x/4 \\ & \text{Taking LCM} \\ & = (2x + x)/4 \\ & = 3x/4 \end{aligned}$$

2. $a/10 + 2a/5$

Solution:

$$\begin{aligned} & a/10 + 2a/5 \\ & \text{Taking LCM} \\ & = (a + 4a)/10 \\ & = 5a/10 \\ & = a/2 \end{aligned}$$

3. $y/4 + 3y/5$

Solution:

$$\begin{aligned} & y/4 + 3y/5 \\ & \text{Taking LCM} \\ & = (5y + 12y)/20 \\ & = 17y/20 \end{aligned}$$

4. $x/2 - x/8$

Solution:

$$\begin{aligned} & x/2 - x/8 \\ & \text{Taking LCM} \\ & = (4x - x)/8 \\ & = 3x/8 \end{aligned}$$

5. $3y/4 - y/5$

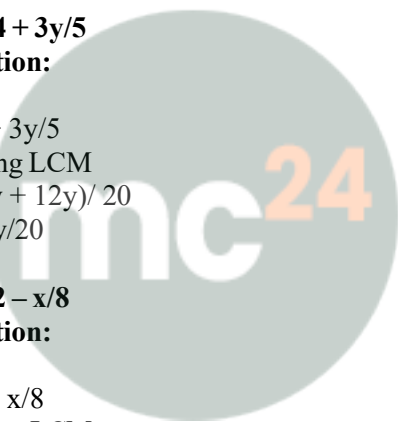
Solution:

$$\begin{aligned} & 3y/4 - y/5 \\ & \text{Taking LCM} \\ & = (15y - 4y)/20 \\ & = 11y/20 \end{aligned}$$

6. $2p/3 - 3p/5$

Solution:

$$\begin{aligned} & 2p/3 - 3p/5 \\ & \text{Taking LCM} \\ & = (10p - 9p)/15 \end{aligned}$$



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$$= p/15$$

7. $k/2 + k/3 + 2k/5$

Solution:

$$\begin{aligned} & k/2 + k/3 + 2k/5 \\ & \text{Here the LCM of 2, 3 and 5 is 30} \\ & = (15k + 10k + 12k)/30 \\ & = 37k/30 \end{aligned}$$

8. $2x/5 + 3x/4 - 3x/5$

Solution:

$$\begin{aligned} & 2x/5 + 3x/4 - 3x/5 \\ & \text{Here the LCM of 5 and 4 is 20} \\ & = (8x + 15x - 12x)/20 \\ & = 11x/20 \end{aligned}$$

9. $4a/7 - 2a/3 + a/7$

Solution:

$$\begin{aligned} & 4a/7 - 2a/3 + a/7 \\ & \text{Here the LCM of 3 and 7 is 21} \\ & = (12a - 14a + 3a)/21 \\ & = a/21 \end{aligned}$$

10. $2b/5 - 7b/15 + 13b/3$

Solution:

$$\begin{aligned} & 2b/5 - 7b/15 + 13b/3 \\ & \text{Here the LCM of 3, 5 and 15 is 15} \\ & = (6b - 7b + 65b)/15 \\ & = 64b/15 \end{aligned}$$

11. $6k/7 - (8k/9 - k/3)$

Solution:

$$\begin{aligned} & 6k/7 - (8k/9 - k/3) \\ & \text{Here the LCM of 7, 9 and 3 is 63} \\ & = [54k - (56k - 21k)]/63 \\ & \text{By further calculation} \\ & = (54k - 35k)/63 \\ & = 19k/63 \end{aligned}$$

12. $3a/8 + 4a/5 - (a/2 + 2a/5)$

Solution:

$$\begin{aligned} & 3a/8 + 4a/5 - (a/2 + 2a/5) \\ & \text{Here the LCM of 8, 5 and 2 is 40} \\ & = [15a + 32a - (20a + 16a)]/40 \end{aligned}$$

**Selina Solutions Concise Maths Class 7 Chapter 11 –
Fundamental Concepts (Including Fundamental Operations)**

By further calculation
 $= (47a - 36a) / 40$
 $= 11a/40$

13. $x + x/2 + x/3$

Solution:

$$\begin{aligned} & x + x/2 + x/3 \\ & \text{Taking LCM} \\ & = (6x + 3x + 2x) / 6 \\ & = 11x/6 \end{aligned}$$

14. $y/5 + y - 19y/15$

Solution:

$$\begin{aligned} & y/5 + y - 19y/15 \\ & \text{Here the LCM of 5 and 15 is 15} \\ & = (3y + 15y - 19y) / 15 \\ & \text{So we get} \\ & = -y/15 \end{aligned}$$

15. $x/5 + (x + 1)/2$

Solution:

$$\begin{aligned} & x/5 + (x + 1)/2 \\ & \text{Here the LCM of 5 and 2 is 10} \\ & = (2x + 5x + 5) / 10 \\ & = (7x + 5) / 10 \end{aligned}$$

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