## EXERCISE 5E

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**Find the sum:**

**1. 5 / 8 + 1 / 8**

**Solution**

Given 5 / 8 + 1 / 8

5 / 8 + 1 / 8 = (5 + 1) / 8

= 6 / 8

= 3 / 4

∴ Sum of 5 / 8 + 1 / 8 = 3 / 4

**2. 4 / 9 + 8 / 9**

**Solution**

Given 4 / 9 + 8 / 9

4 / 9 + 8 / 9 = (4 + 8) / 9

= 12 / 9

= 4 / 3

∴ Sum of 4 / 9 + 8 / 9 = 4 / 3

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

**3.** $1\frac{3}{5} + 2\frac{4}{5}$

Solution

$$1\frac{3}{5} + 2\frac{4}{5} = \frac{8}{5} + \frac{14}{5}$$

$$\Rightarrow \frac{8}{5} + \frac{14}{5} = \frac{22}{5} = 4\frac{2}{5}$$

$$5\overline{)22}\,4 \quad (20,\ 2)$$

**4. 2 / 9 + 5 / 6**

**Solution**

Given
2/9 + 5/6

| | | |
|---|---|---|
| 3 | 9 | 6 |
| 3 | 3 | 2 |
| 2 | 1 | 2 |
| | 1 | 1 |

LCM of 9 and 6 = (3 × 3 × 2) = 18
2/9 + 5/6 = (2 × 2) / (9 × 2)+ (5× 3) / (6 × 3)
= (4 + 15) / 18

| | | |
|---|---|---|
| 18 | 19 | 1 |
| | 18 | |
| | 1 | |

= 19/18

$$= 1\frac{1}{18}$$

**5. 7 / 12 + 9 / 16**

**Solution**

Given
7/12 + 9/16

| | | |
|---|---|---|
| 2 | 12 | 16 |
| 2 | 6 | 8 |
| 2 | 3 | 4 |
| 2 | 3 | 2 |
| 3 | 3 | 1 |
| | 1 | 1 |

LCM of 12 and 16 = (2 × 2 × 2 × 2 × 3) = 48
7/12 + 9/16 = (7 × 4) / (12 × 4) + (9 × 3) / (16 × 3)
= (28 + 27) / 48
= 55/48

| | | |
|---|---|---|
| 48 | 55 | 1 |
| | 48 | |
| | 7 | |

$$= 1\frac{7}{48}$$

**6. 4 / 15 + 17 / 20**

**Solution**

Given

4/15 + 17/20

| | | |
|---|---|---|
| 5 | 15 | 20 |
| 3 | 3 | 4 |
| 2 | 1 | 4 |
| 2 | 1 | 2 |
| | 1 | 1 |

LCM of 15 and 20 = ( 5 × 3 × 2 × 2) = 60

4/15 + 17/20 = (4 × 4) / (15 ×4) + (17 × 3) / (20 × 3)

= 16/60 + 51/60

= 67/60

| | | |
|---|---|---|
| 60 | 67 | 1 |
| | 60 | |
| | 7 | |

$= 1\frac{7}{60}$

7. $2\frac{3}{4} + 5\frac{5}{6}$

Given

$2\frac{3}{4} + 5\frac{5}{6}$

11/4 + 35/6

| | | |
|---|---|---|
| 2 | 4 | 6 |
| 2 | 2 | 3 |
| 3 | 1 | 3 |
| | 1 | 1 |

LCM of 4 and 6 = (2 × 2 × 3) =12

11/4 + 35/6 = (11 × 3) / (4 × 3) + (35 × 2) / (6 × 2)

= 33/12 + 70/12

= 103/12

| | | |
|---|---|---|
| 12 | 103 | 8 |
| | 96 | |
| | 7 | |

$= 8\frac{7}{12}$

8. $3\frac{1}{8}+1\frac{5}{12}$

Solution

Given

$3\frac{1}{8}+1\frac{5}{12}$

= 25/8 + 17/12

| | | |
|---|---|---|
| 2 | 8 | 12 |
| 2 | 4 | 6 |
| 2 | 2 | 3 |
| 3 | 1 | 3 |
| | 1 | 1 |

LCM of 8 and 12 = (2 × 2 × 2 ×3) = 24

25/8 + 17/12 = (25 × 3) / (8 × 3) + (17× 2) / (12 × 2)

= 75/24 + 34/24

= 109/24

24 | 109 | 4

96

13

$= 4\frac{13}{24}$

**9.** $2\frac{7}{10} + 3\frac{8}{15}$

Solution

Given

$$2\frac{7}{10} + 3\frac{8}{15}$$

27/10 + 53/15

| | | |
|---|---|---|
| 5 | 10 | 15 |
| 2 | 2 | 3 |
| 3 | 1 | 3 |
| | 1 | 1 |

LCM of 10 and 15 = (5 × 3 × 2) = 30

27/10 + 53/15 = (27 × 3) / (10 × 3) / (53 × 2) / (15 × 2)
= 81/30 + 106/30
= 187/30

```
30 | 187 | 6
   | 180 |
   |-----|
   |   7 |
```

$$= 6\frac{7}{30}$$

**10.** $3\frac{2}{3}+1\frac{5}{6}+2$

Solution

Given

$$3\frac{2}{3}+1\frac{5}{6}+2$$

11/3 + 11/6 + 2

| 3 | 3 | 6 |
|---|---|---|
| 2 | 1 | 2 |
| | 1 | 1 |

LCM of 3 and 6 = (3 × 2) = 6

11/3 + 11/6 + 2 = (11 × 2) / (3 × 2) + (11 × 1) / (6 × 1) + (2 × 6)

= (22 + 11 + 12) /6

= 45 / 6

=15 / 2

$$2\overline{)15}\ 7,\quad 14,\quad 1$$

$$= 7\frac{1}{2}$$