

INTEGRATED⁺

Class: VI, MATHEMATICS

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2. OPERATIONS ON FRACTIONS

TEACHING TASK (JEE MAINS)

01. $\frac{3}{4} + \frac{2}{5} = \frac{15+8}{20} = \frac{23}{20}$

Ans. A

02. $\frac{7}{8} - \frac{3}{4} = \frac{7-6}{8} = \frac{1}{8}$

Ans. A

03. $\frac{2}{3} \times \frac{9}{4} = \frac{3}{2}$

Ans. B

04. $\frac{5}{6} \div \frac{10}{9} = \frac{5}{6} \times \frac{9}{10} = \frac{3}{4}$

Ans. A

05. $\frac{4}{5} + \frac{7}{10} = \frac{8+7}{10} = \frac{15}{10} = \frac{3}{2}$

Ans. C

06. $\frac{11}{12} - \frac{7}{8} = \frac{22-21}{24} = \frac{1}{24}$

Ans. A

07. $\frac{5}{7} \times \frac{14}{15} = \frac{2}{3}$

Ans. A

08. $\frac{9}{10} \div \frac{3}{5} = \frac{9}{10} \times \frac{5}{3} = \frac{3}{2}$

Ans. A

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

Ans. B

10. $\frac{7}{9} - \frac{1}{2} = \frac{7-3}{9} = \frac{4}{9}$

Ans. C



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(2)

11. $\frac{2}{3} \times \frac{3}{4} = x \Rightarrow x = \frac{1}{2}$ Also $x < 1$

Ans: A, B

12. $\frac{5}{6} + \frac{7}{12} = \frac{10+7}{12} = \frac{17}{12}$ or $1\frac{5}{12}$ or greater than 1

Ans: A, B, C

13. Statement I: Conceptual (True)

Statement II: $\frac{2}{3} + \frac{2}{3} = \frac{4}{3}$ (True)

Ans: A

14. Statement I: $\frac{3}{4} \times \frac{4}{3} = 1$ (True)

Statement II: Conceptual (True)

Ans: A

15. Assertion: $\frac{3}{4} + \frac{1}{4} = 1$ (True)

Reason: Conceptual (True)

Ans: A

16. Assertion: Conceptual (False)

Reason: $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{ad}{bc}$ (True) Ans: D

Ans: A

17. Conceptual (True)

Ans: B

18. Unlike fractions (

Ans: A

19. $\frac{2}{5} \times \frac{15}{8} = \frac{3}{4} < 1$

20. $\frac{2}{5} \rightarrow$ Proper fraction, $\frac{15}{8} \rightarrow$ Improper fraction

Ans: C

$$21) \frac{5}{6} + \frac{7}{12} = \frac{10+7}{12} = \frac{17}{12} \rightarrow \text{Answer} = 17 \quad \text{Ans: } 17^{(2)}$$

$$22) \frac{7}{8} \div \frac{1}{4} = \frac{7}{8} \times \frac{4}{1} = \frac{7}{2} = 3.5 \quad \text{Ans: } 3$$

$$23) A) \frac{3}{4} + \frac{1}{4} = \frac{4}{4} = 1 (q)$$

$$B) \frac{5}{6} - \frac{1}{3} = \frac{5-2}{6} = \frac{3}{6} = \frac{1}{2} (p)$$

$$C) \frac{2}{3} \times \frac{9}{4} = \frac{3}{2} (r)$$

$$D) \frac{7}{8} \div \frac{7}{16} = \frac{7}{8} \times \frac{16}{7} = 2 (—)$$

Ans: q, p, r, —

$$24) A) \frac{3}{5} + \frac{4}{10} = \frac{6+4}{10} = \frac{10}{10} = 1 (s)$$

$$B) \frac{9}{8} - \frac{5}{8} = \frac{4}{8} = \frac{1}{2} (r)$$

$$C) \frac{2}{3} \times \frac{9}{2} = 3 (q)$$

$$D) \frac{3}{4} \div \frac{3}{2} = \frac{3}{4} \times \frac{2}{3} = \frac{1}{2} (r) \quad \text{Ans: s, r, q, r}$$

LEARNERS TASK (CUES)

01 1

Ans: C

02. Conceptual

Ans: B

03 Less than 1

Ans: C

04 Increased

Ans: A

05 A whole number greater than 1

Ans: B

06	Conceptual	Ans: C
07	Conceptual	Ans: A
08	Conceptual	Ans: D
09	Conceptual	Ans: B
10	Conceptual	Ans: B

JEE MAINS LEVEL

01.	$\frac{2}{3} + \frac{4}{9} = \frac{6+4}{9} = \frac{10}{9}$	Ans: C
02	$\frac{5}{6} \times \frac{3}{5} = \frac{1}{2}$	Ans: A
03	$\frac{8}{9} \div \frac{4}{3} = \frac{8}{9} \times \frac{3}{4} = \frac{2}{3}$	Ans: A
04	$\frac{7}{10} + \frac{9}{20} = \frac{14+9}{20} = \frac{23}{20}$	Ans: B
05	$\frac{4}{5} - \frac{2}{15} = \frac{12-2}{15} = \frac{10}{15} = \frac{2}{3}$	Ans: B
06	$\frac{7}{8} \times \frac{16}{21} = \frac{2}{3}$	Ans: A
07	$\frac{12}{15} \div \frac{3}{5} = \frac{12}{15} \times \frac{5}{3} = \frac{4}{3}$	Ans: A
08	$\frac{9}{14} + \frac{5}{7} = \frac{9+10}{14} = \frac{19}{14}$	Ans: A

09. $\frac{11}{12} - \frac{1}{6} = \frac{11-2}{12} = \frac{9}{12} = \frac{3}{4}$ Ans: B⁵

10. $\frac{3}{5} \times \frac{10}{9} = \frac{2}{3}$ Ans: A

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11. fraction $\times 0 = 0$ Ans: A

12. $\frac{4}{5} \div \frac{2}{5} = \frac{4}{5} \times \frac{5}{2} = 2 > 1$
denominators are equal, operation convert to multiplication, Result = 2 Ans: A, B, C, D

13. Statement I: Conceptual (True)
Statement II: Mathematically (True) Ans: A

14. Statement I: Conceptual (True)
Statement II: Mathematically (True) Ans: A

15. Assertion: Mathematically (True)
Reason: Conceptual (True) Ans: A

16. Assertion: Conceptual (True)
Reason: Conceptual (True) Ans: A

17. $\frac{3}{8} + \frac{1}{4} = \frac{3+2}{8} = \frac{5}{8}$ Ans: A

18. ~~Remain part = 1 - 5~~

18. Remaining cake = $1 - \left(\frac{3}{8} + \frac{1}{4}\right)$
 $= 1 - \frac{5}{8} = \frac{3}{8}$

Asha's brother's share = $\frac{\left(\frac{3}{8}\right)}{2} = \frac{3}{16}$

$\therefore$ Asha's share = $\frac{3}{16}$

Ans: C

19. Wall completed by R = $1 - \left(\frac{1}{3} + \frac{2}{5}\right)$
 $= 1 - \left(\frac{5+6}{15}\right)$

$= 1 - \frac{11}{15} = \frac{4}{15}$ Ans: B

20. Ratio of P, Q, R's work
 $= \frac{1}{3} : \frac{2}{5} : \frac{4}{15}$
 $= 5 : 6 : 4$

Total amount = Rs 600.

$\therefore$ Q's share = $\frac{6}{15} \times 600 = \text{Rs } 240$

Ans: B

21. $\frac{17}{5} = 3\frac{2}{5}$

$\begin{array}{r} 5 \overline{) 17} 3 \\ \underline{15} \\ 2 \end{array}$

$\therefore$ whole part = 3

Ans: 3

22. $\frac{9}{12} + \frac{3}{8} = \frac{18+9}{24} = \frac{27}{24}$, Numerator = 27
 Ans: 27

(7)

23 a) $\frac{7}{9} + \frac{2}{3} = \frac{7+6}{9} = \frac{13}{9} (q)$

b) $\frac{5}{6} - \frac{3}{4} = \frac{10-9}{12} = \frac{1}{12} (p)$

c) $\frac{8}{9} \times \frac{3}{4} = \frac{2}{3} (r)$

d) $\frac{2}{3} \div \frac{3}{2} = \frac{2}{3} \times \frac{2}{3} = \frac{4}{9} (s)$

24 a) $\frac{5}{8} + \frac{3}{4} = \frac{5+6}{8} = \frac{11}{8} (r)$

b) $\frac{9}{10} - \frac{2}{5} = \frac{9-4}{10} = \frac{5}{10} = \frac{1}{2} (p)$

c) $\frac{4}{9} \times \frac{9}{8} = \frac{1}{2} (p)$

d) $\frac{2}{5} \div \frac{4}{10} = \frac{2}{5} \times \frac{10}{4} = 1 (q)$ Ans: r, p, p, q

$\Rightarrow$ THE END $\Leftarrow$