

2. FUNDAMENTALS OF FRACTIONS 2025/26 ①

Class: VII, MATHEMATICS

INTEGRATED⁺ SOLUTIONS

TEACHING TASK MAINS LEVEL

01. $\frac{3}{4} + \frac{5}{6} = \frac{9+10}{12} = \frac{19}{12}$

Ans. B

02. $\frac{a}{b} \times \frac{b}{c} = \frac{3}{5} \times \frac{2}{3} = \frac{2}{5}$
 $\therefore \frac{a}{c} = \frac{2}{5}$

Ans. C

03. $\frac{2}{5} \times \frac{3}{4} = \frac{3}{10}$

Ans. B

04. $\frac{x}{y} = \frac{7}{9}$
 $\Rightarrow \frac{2x}{3y} = \frac{2}{3} \times \frac{7}{9} = \frac{14}{27}$

Ans. A

05. $\frac{p}{q} \times \frac{q}{r} = \frac{4}{7} \times \frac{3}{5} \Rightarrow \frac{p}{r} = \frac{12}{35}$

Ans. A

06. $\frac{3}{4} \times \frac{3}{2} = \frac{9}{8}$

Ans. A

07. $\frac{3}{x} = \frac{45}{60} \Rightarrow x = 4$

Ans. D

08

$$\frac{11}{17} = 0.64 ; \frac{9}{13} = 0.69 \mid \frac{5}{8} = 0.62 \quad (2)$$

$$\therefore 0.69 > 0.64 > 0.62$$

$$\frac{9}{13} > \frac{11}{17} > \frac{5}{8}$$

Ans: B

09

$$\frac{24}{168} = \frac{1}{7}$$

Ans: B

10

$$\text{watch cartoons} = 48 \times \frac{1}{4} = 12$$

$$\therefore \text{Do not watch cartoons} = 48 - 12 = 36 \quad \text{Ans: C}$$

11

$$\frac{1}{2} \times \frac{8}{8} = \frac{8}{16}$$

Ans: B

12

$$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

Ans: A

13

$$\frac{9}{20} \neq \frac{2}{5}$$

Ans: C

JEE ADVANCED

01

$$A) \frac{10}{12} = \frac{5}{6}$$

$$C) \frac{25}{30} = \frac{5}{6}$$

$$B) \frac{15}{18} = \frac{5}{6}$$

$$D) \frac{20}{24} = \frac{5}{6}$$

Ans: A, B, C, D

02

$$B) \frac{1}{4} + \frac{3}{4} = \frac{4}{4} = 1 \checkmark$$

$$C) \frac{5}{6} + \frac{1}{3} = \frac{5+2}{6} = \frac{7}{6} \times$$

$$D) \frac{7}{8} + \frac{1}{8} = \frac{8}{8} = 1 \checkmark$$

Ans: B, D

Q3 A) $\frac{1}{2} = \frac{2}{4} \checkmark$ B) $\frac{1}{3} = \frac{3}{9} \checkmark$

3

C) $\frac{2}{5} \neq \frac{4}{9}$ D) $\frac{4}{7} \neq \frac{8}{13}$

Ans.. A, B

Q4 Assertion: Conceptual (True)

Reason: Conceptual (True)

Ans. A

Q5 Assertion: Conceptual (False)

Reason: Conceptual (True)

Ans. D

Q6 Statement I: Conceptual (False)

Statement II: Conceptual (True)

Ans. D

Q7. Statement I: Conceptual (True)

Statement II: Conceptual (True)

Ans. A

Q8 $\frac{7}{8} \times \frac{3}{3} = \frac{21}{24}$; $\frac{1}{3} \times \frac{8}{8} = \frac{8}{24}$

A) $\frac{1}{4} \times \frac{6}{6} = \frac{6}{24} (X)$

B) $\frac{23}{24} (X) \frac{8 \times 23}{24}$

C) $\frac{11}{12} \times \frac{2}{2} = \frac{22}{24} X \therefore \frac{8}{24}$

D) $\frac{11}{24} \therefore \frac{8}{24} < \frac{11}{24} < \frac{21}{24}$

Ans.. D

09.

$$\frac{p}{q} = \frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$$

Ans. 6

10

$$\frac{11}{4} = \frac{77}{x} \Rightarrow \frac{1}{4} = \frac{7}{x} \Rightarrow x = 28$$

Ans. 28

11

a) Conceptual (x)

b) Conceptual (s)

c) Conceptual (p)

d) Conceptual (q)

Ans. x, s, p, q

12

$$a) 80p = \frac{80}{100} = \frac{4}{5}$$

$$\therefore \text{fraction of } 25 = \frac{4}{5 \times 5} = \frac{4}{25} (x)$$

$$b) 2 \text{ days} = 2 \times 24 \text{ hr} = 48 \text{ hr}$$

$$\therefore \text{fraction} = \frac{8}{48} = \frac{1}{6} (s)$$

$$c) 1 \text{ kg} = 1000 \text{ gms}$$

$$\text{fraction} = \frac{450}{1000} = \frac{9}{20} (q)$$

$$d) 1 \text{ lit} = 1000 \text{ ml}$$

$$\text{fraction} = \frac{350}{1000} = \frac{7}{20} (p)$$

Ans. x, s, q, p

LEARNER TASK (CQA'S) (5)

01. $\frac{1}{3} + \frac{1}{6} = \frac{7}{12}$

Ans. A

02. $\frac{p}{7} = \frac{2}{5} \Rightarrow \frac{2p}{7} = \frac{6}{5}$

Ans. A

03. $\frac{21}{8} \times \frac{4}{4} = \frac{84}{32}$

Ans. C

04. A) $2\frac{1}{8} = \frac{17}{8} \checkmark$

B) $2\frac{3}{24} = \frac{51}{24} \neq \frac{17}{8} \checkmark$

C) $\frac{34}{16} = \frac{17}{8} \checkmark$

D) $\frac{36}{16} = \frac{18}{8} \times$

Ans. D

05. $\frac{25}{15} = \frac{5}{3} \Rightarrow \frac{15}{25} = \frac{3}{5}$

Ans. D

06. A) $2\frac{3}{4} = \frac{11}{4}$

Ans. A

07. $\frac{4}{9} = \frac{a}{18} \Rightarrow a = 8$

Ans. B

08. $\frac{10}{3} = 3\frac{1}{3}$

Ans. A

09. $3\frac{2}{5} = \frac{17}{5}$

Ans. C

10. $30 \text{ min} = 30 \times \frac{1 \text{ min}}{60} \text{ hr} = \frac{1}{2} \text{ hr}$ Ans. B

JEE MAINS LEVEL

(6)

01 $\frac{1}{2} + \frac{2}{3}$
 $= \frac{3+4}{6} = \frac{7}{6}$ Ans. A

02 $\frac{5}{6} - \frac{1}{3}$
 $= \frac{5-2}{6} = \frac{3}{6} = \frac{1}{2}$ Ans. A

03 $\frac{a}{b} \times \frac{b}{c} = \frac{3}{4} \times \frac{5}{6} \Rightarrow \frac{a}{c} = \frac{5}{8}$ Ans. A

04 $\frac{p}{q} = \frac{2}{3}$
 Now, $\frac{p+q}{p} = 1 + \frac{q}{p} = 1 + \frac{3}{2} = \frac{5}{2}$ Ans. B

05 A) $\frac{1}{2} = 0.5$, B) $\frac{4}{9} = 0.\overline{4}$
 C) $\frac{14}{27} = 0.52$ D) $\frac{2}{3} = 0.6$
 Smallest one = $\frac{4}{9}$ Ans. B

06 A) $\frac{1}{3} = 0.33$ B) $\frac{5}{12} = 0.41$
 C) $\frac{2}{5} = 0.4$ D) $\frac{13}{30} = 0.43$
 Greatest = $\frac{13}{30}$ Ans. D

07 $\frac{315}{405} = \frac{7}{9}$ Ans. C

08

or shortcut method

(5)

$$\frac{1}{18} = 0.04 ; \frac{4}{11} = 0.36 ; \frac{11}{11} = 1.00$$

$$\frac{1}{11} = 0.09$$

Ascending order $\rightarrow 0.04 < 0.09 < 0.36 < 1.00$
 $\frac{1}{18} < \frac{1}{11} < \frac{4}{11} < \frac{11}{11}$

Ans: C

Q7 A) $\frac{6}{15} = \frac{2}{5}$ ✓ B) $\frac{6}{12} = \frac{1}{2}$ ✓

Ans: D

C) $\frac{9}{12} = \frac{3}{4}$ ✓ D) $\frac{3}{20}$ ✗

JEE ADVANCED LEVEL

10 $\frac{2}{5} = 0.4$

A) $\frac{6}{7} = 0.857$ ✓ B) $\frac{2}{3} = 0.667$ ✓ C) $\frac{4}{5} = 0.8$ ✓ D) $\frac{1}{2} = 0.5$ ✓

Ans: A, B, C, D

11 $\frac{6}{5} \times \frac{2}{2} = \frac{12}{10}$

Ans: D

12 A) $\frac{1}{5}, \frac{4}{5}$ C) $\frac{1}{6}, \frac{5}{6}$

Ans: A, C

13 Assertion: $\frac{a}{b} = \frac{c}{d} \Rightarrow ad = bc$ (True)

Reason: Conceptual (True)

Ans: A

14 Assertion: Conceptual (False)

Reason: Conceptual (True)

Ans: B

15 Statement I: (2)

$$\frac{2}{3} = 0.67 ; \frac{2}{7} = 0.28 ; \frac{2}{11} = 0.17$$

$$\frac{2}{5} = 0.4 ; \frac{2}{9} = 0.22$$

Ascending order $\rightarrow 0.17 < 0.22 < 0.28 < 0.4 < 0.67$

$$\frac{2}{11} < \frac{2}{9} < \frac{2}{7} < \frac{2}{5} < \frac{2}{3} \text{ (False)}$$

Statement II: Conceptual (True) for Ans. D

16 Rani typed $= \frac{50}{100} = \frac{1}{2}$ th of the book.

Meena typed $= \frac{1}{4}$ of the book.

*) Rani typed more

Ans. A

17 $\frac{2x}{2} = 8 \Rightarrow x = 12$

Ans: 12

18 $\frac{5}{10} = \frac{x-2}{30} \Rightarrow x-2=15 \Rightarrow x=17$

Ans 17

19 a) $\frac{24}{72} = \frac{4}{13} \text{ (Q)}$

b) $\frac{3}{5} \times \frac{4}{4} = \frac{12}{20} \text{ (X)}$

c) $\frac{3}{5} < \frac{8}{5} \text{ (P)}$

d) $\frac{5}{3} - \frac{7}{10} \Rightarrow 50 > 21 \text{ (S)}$

Ans 2, 4, 1, 5

$\Rightarrow$ THE END $\Leftarrow$