

1

FRACTIONS

TNPSC GROUP-IV

TOPIC - 1

HOME WORK



#FeelFreetoLearn

Question : 1

$$7428 \times \frac{3}{4} \times \frac{2}{9} \times ? = 619$$

Solution:

$$7428 \times \frac{3}{4} \times \frac{2}{9} \times ? = 619$$

$$7428 \times \frac{1}{6} \times ? = 619$$

$$1238 \times ? = 619$$

$$? = \frac{619}{1238}$$

Question : 2

$$2\frac{4}{25} + 3\frac{1}{5} = ?$$

Solution:

$$? = 2\frac{4}{25} + 3\frac{1}{5}$$

$$= \frac{54}{25} + \frac{16}{5} = \frac{54+80}{25}$$

$$= \frac{134}{25} = 5\frac{9}{25}$$

Question : 3

$$\frac{7}{8} \times \left(\frac{47+17}{22+27} \right) + \frac{1}{2} = ?$$

Solution:

$$? = \frac{7}{8} \times \left(\frac{47+17}{22+27} \right) + \frac{1}{2}$$

$$= \frac{7}{8} \times \frac{64}{49} + \frac{1}{2} = \frac{8}{7} + \frac{1}{2}$$

$$= \frac{23}{14}$$

Question : 4

$$\frac{2}{5} \times \frac{7}{8} \times ? = \frac{7}{15}$$

Solution:

$$\frac{2}{5} \times \frac{7}{8} \times ? = \frac{7}{15}$$

$$\Rightarrow \frac{7}{20} \times ? = \frac{7}{15}$$

$$\Rightarrow ? = \frac{7}{15} \times \frac{20}{7} = \frac{20}{15}$$

$$= \frac{4}{3} = 1\frac{1}{3}$$

Question : 5

$$\left[\frac{125 \times 125}{50} \times 20 \right] \div 25 = ?$$

Solution:

$$\left[\frac{125 \times 125}{50} \times 20 \right] \div 25 = ?$$

$$\left[\frac{15625}{50} \times 20 \right] \div 25 = ?$$

$$= 6250 \div 25 = 250$$

Question : 6

$$\frac{1}{8} \times (223 + ?) = 71$$

Solution:

$$\frac{1}{8} \times (223 + ?) = 71$$

$$\Rightarrow 223 + ? = 71 \times 8 = 568$$

$$\Rightarrow ? = 568 - 223$$

$$? = 345$$

Question : 7

$$\frac{4}{5} \times \frac{3}{7} \div \frac{6}{7} \div \frac{5}{9} = ?$$

Solution:

$$\frac{4}{5} \times \frac{3}{7} \div \frac{6}{7} \div \frac{5}{9} = ?$$

$$? = \frac{4}{5} \times \left(\frac{3}{7} \times \frac{7}{6}\right) \div \frac{5}{9}$$

$$= \frac{4}{5} \times \frac{1}{2} \div \frac{5}{9} = \frac{4}{5} \times \left(\frac{1}{2} \times \frac{9}{5}\right)$$

$$= \frac{4}{5} \times \frac{9}{10} = \frac{18}{25}$$

Question : 8

$$\frac{3}{7} \times 1\frac{13}{15} \div \frac{2}{5} = ?$$

Solution:

$$\frac{3}{7} \times 1\frac{13}{15} \div \frac{2}{5} = ?$$

$$? = \frac{3}{7} \times 1\frac{13}{15} \div \frac{2}{5}$$

$$= \frac{3}{7} \times \frac{28}{15} \times \frac{5}{2} = 2$$

Question : 9

$$189 \div \left(\frac{7}{5} \times \frac{3}{8} \times \frac{4}{5}\right) = ?$$

Solution:

$$189 \div \left(\frac{7}{5} \times \frac{3}{8} \times \frac{4}{5}\right) = ?$$

$$= 189 \div \frac{21}{50}$$

$$= 450$$

Question : 10

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

Solution:

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

$$= \frac{7}{4} + \frac{13}{8} - \frac{14}{5} + \frac{1}{2}$$

$$= \frac{70+65-112+20}{40}$$

$$= \frac{43}{40} = 1\frac{3}{40}$$

Question : 11

$$99 \div \frac{1}{9} = ?$$

Solution:

$$99 \div \frac{1}{9} = 99 \times 9 = 891$$

Question : 12

$$2\frac{3}{4} \times 3\frac{1}{4} \times 1\frac{1}{8} = ?$$

Solution:

$$2\frac{3}{4} \times 3\frac{1}{4} \times 1\frac{1}{8} = ?$$

$$2\frac{3}{4} = 2.75 = 2.8$$

$$3\frac{1}{4} = 3.25 = 3.3$$

$$1\frac{1}{8} = 1.125 = 1.1$$

$$? = 2\frac{3}{4} \times 3\frac{1}{4} \times 1\frac{1}{8}$$

$$= 2.8 \times 3.3 \times 1.1 = 10.16$$

Question : 13

$$\frac{1}{3} \times \frac{1}{7} + \frac{1}{5} = ?$$

Solution:

$$? = \frac{1}{3} \times \frac{1}{7} + \frac{1}{5}$$

$$= \frac{1}{21} + \frac{1}{5} = \frac{5+21}{105} = \frac{26}{105}$$

Question : 14

$$\frac{1}{4} + \frac{3}{8} - \frac{1}{2} + \frac{3}{4} - \frac{1}{3} = ?$$

Solution:

$$\frac{1}{4} + \frac{3}{8} - \frac{1}{2} + \frac{3}{4} - \frac{1}{3} = ?$$

LCM of 4, 8, 2, 4, 3 = 24

$$\frac{6+9-12+18-8}{24} = \frac{13}{24}$$

Question : 15

$$\left(\frac{2}{9} + \frac{3}{5}\right) \div \left(\frac{2}{9} + \frac{2}{5}\right) = ?$$

Solution:

$$\left(\frac{2}{9} + \frac{3}{5}\right) \div \left(\frac{2}{9} + \frac{2}{5}\right) = ?$$

$$\Rightarrow \left(\frac{10+27}{45}\right) \div \left(\frac{10+18}{45}\right)$$

$$\Rightarrow \frac{37}{45} \div \frac{28}{45} = \frac{37}{45} \times \frac{45}{28} = \frac{37}{28}$$

Question : 16

$$7\frac{1}{5} \div 1\frac{1}{35} \times \frac{3}{35} = ?$$

Solution:

$$7\frac{1}{5} \div 1\frac{1}{35} \times \frac{3}{35} = ?$$

$$= \frac{36}{5} \div \frac{36}{35} \times \frac{3}{35}$$

$$= \frac{36}{5} \times \frac{35}{36} \times \frac{3}{35} = \frac{3}{5}$$

Question : 17

$$1 + \frac{1}{3} + \frac{1}{6} + \frac{1}{8} + \frac{1}{12} + \frac{1}{24} = ?$$

Solution:

$$? = 1 + \frac{1}{3} + \frac{1}{6} + \frac{1}{8} + \frac{1}{12} + \frac{1}{24}$$

$$= \frac{24}{24} + \frac{8}{24} + \frac{4}{24} + \frac{3}{24} + \frac{2}{24} + \frac{1}{24}$$

$$= \frac{42}{24} = \frac{7}{4}$$

Question : 18

$$12\frac{1}{2} + 12\frac{1}{3} + 12\frac{1}{6} = ?$$

Solution:

$$12\frac{1}{2} + 12\frac{1}{3} + 12\frac{1}{6} = ?$$

$$= \frac{25}{2} + \frac{37}{3} + \frac{73}{6}$$

$$= \frac{75+74+73}{6} = \frac{222}{6} = 37$$

Question : 19

$$5\frac{1}{6} - 3\frac{4}{9} + ? = \frac{7}{3} \times 4\frac{1}{6}$$

Solution:

$$= \frac{31}{6} - \frac{31}{9} + ? = \frac{7}{3} \times \frac{25}{6}$$

$$= 31 \left(\frac{1}{6} - \frac{1}{9}\right) + ? = \left(\frac{175}{18}\right)$$

$$= 31 \left(\frac{3}{54} \right) + ? = \left(\frac{175}{18} \right)$$

$$= \frac{31}{18} + ? = \frac{175}{18}$$

$$? = \frac{144}{18}$$

$$? = 8$$

Question : 20

$$4\frac{1}{5} - \left[3\frac{1}{3} - \left\{ 2\frac{1}{2} - \left(\frac{1}{3} + \frac{1}{6} - \frac{1}{12} \right) \right\} \right] = ?$$

Solution:

$$? = 4\frac{1}{5} - \left[3\frac{1}{3} - \left\{ 2\frac{1}{2} - \left(\frac{1}{3} + \frac{1}{6} - \frac{1}{12} \right) \right\} \right]$$

$$\Rightarrow \frac{21}{5} - \left[\frac{10}{3} - \left\{ \frac{5}{2} - \left(\frac{4+2-1}{12} \right) \right\} \right]$$

$$\Rightarrow \frac{21}{5} - \left[\frac{10}{3} - \left\{ \frac{5}{2} - \frac{5}{12} \right\} \right]$$

$$\Rightarrow \frac{21}{5} - \left[\frac{10}{3} - \frac{25}{12} \right]$$

$$\Rightarrow \frac{21}{5} - \frac{15}{12} = \frac{21}{5} - \frac{5}{4}$$

$$= \frac{84-25}{20} = \frac{59}{20}$$