

21- Find the value of the following expression upto four places of decimals

$$1 + \frac{1}{1 \times 2} + \frac{1}{1 \times 2 \times 4} + \frac{1}{1 \times 2 \times 4 \times 8} + \frac{1}{1 \times 2 \times 4 \times 8 \times 16}$$

- A.1.6414
- B.1.6415
- C.1.6416
- D.1.6428
- E.None of these

Answer & Explanation

Answer - C (1.6416)

Explanation -

$$\begin{aligned} \text{Given expression} &= \frac{2 \times 4 \times 8 \times 16 + 4 \times 8 \times 16 + 8 \times 16 + 16 + 1}{2 \times 4 \times 8 \times 16} \\ \text{Given expression} &= \frac{1024 + 512 + 128 + 16 + 1}{1024} = \frac{1681}{1024} = 1.6416 \end{aligned}$$

22- 4.036 divided by 0.04 gives:

- A.1.009
- B.10.09
- C.100.9
- D.1000.9
- E.None of these

Answer & Explanation

Answer - C (100.9)

Explanation -

$$\frac{4.036}{0.04} = \frac{403.6}{4} = 100.9$$

23- Find the value

$$\frac{4.2 \times 4.2 - 1.9 \times 1.9}{2.3 \times 6.1} = ?$$

$$2.3 \times 6.1$$

- A.0.5
- B.1
- C.1.9
- D.4.2
- E.None of these

Answer & Explanation

Answer - B (1)

Explanation -

$$\text{Given expression} = \frac{(a^2 - b^2)}{(a + b)(a - b)} = \frac{(a^2 - b^2)}{(a^2 - b^2)} = 1$$

24- Solve:

$$\frac{96.54 - 89.63}{96.54 + 89.63} + \frac{965.4 - 896.3}{9.654 + 8.963} = ?$$

- A.1/100
- B.1/10
- C.10
- D.100
- E.None of these

Answer & Explanation**Answer** - A (1/100)**Explanation** -

$$\begin{aligned}
 \text{Given expressoion} &= \frac{(96.54 - 89.63)}{(96.54 + 89.63)} \times \frac{(9.654 + 8.963)}{(965.4 - 896.3)} \\
 &= \frac{(96.54 - 89.63)}{(965.4 - 896.3)} \times \frac{(9.654 + 8.963)}{(96.54 + 89.63)} \\
 &= \frac{(96.54 - 89.63)}{10 (96.54 - 89.63)} \times \frac{(96.54 + 89.63)}{10 (96.54 + 89.63)} \\
 &= \frac{1}{10} \times \frac{1}{10} = \frac{1}{100}
 \end{aligned}$$

25- 0.00625 of $\frac{23}{5}$ when expressed as a vulger fraction, equals:

- **A.** 23/80
- **B.** 23/800
- **C.** 23/8000
- **D.** 125/23
- **E.** None of these

Answer & Explanation**Answer** - B (23/800)**Explanation** -

$$0.00625 \text{ of } \frac{23}{5} = \frac{625}{100000} \times \frac{23}{5} = \frac{23}{800}$$

26- $617 + 6.017 + 0.617 + 6.0017 = ?$

- **A.** 6.2963
- **B.** 62.965
- **C.** 629.6357
- **D.** 6296.357

- **E.**None of these

Answer & Explanation

Answer - **C** (629.6357)

Explanation -

617

6.017

0.617

- 6.0017

629.636

27- Which of the following fractions is greater than $\frac{3}{4}$ and less than $\frac{5}{6}$?

- **A.** $\frac{1}{2}$
- **B.** $\frac{2}{3}$
- **C.** $\frac{4}{5}$
- **D.** $\frac{9}{10}$
- **E.**None of these

Answer & Explanation

Answer - **C** ($\frac{4}{5}$)

Explanation -

$\frac{3}{4} = 0.75$, $\frac{5}{6} = 0.833$, $\frac{1}{2} = 0.5$, $\frac{2}{3} = 0.66$, $\frac{4}{5} = 0.8$, $\frac{9}{10} = 0.9$.

Clearly, 0.8 lies between 0.75 and 0.833.

$\frac{4}{5}$ lies between $\frac{3}{4}$ and $\frac{5}{6}$.

28- The rational number for recurring decimal 0.125125.... is:

- **A.** $\frac{63}{487}$
- **B.** $\frac{119}{993}$
- **C.** $\frac{125}{999}$
- **D.** $\frac{125}{993}$
- **E.**None of these

Answer & Explanation

Answer - C (125/999)

Explanation -

$$0.125125... = 0.125 = \frac{125}{999}$$

29- The value of following is close to:

$$489.1375 \times 0.0483 \times 1.956$$

$$0.0873 \times 92.581 \times 99.749$$

- A.0.006
- B.0.06
- C.0.6
- D.6
- E.None of these

Answer & Explanation

Answer - B (0.06)

Explanation -

$$\frac{489.1375 \times 0.0483 \times 1.956}{0.0873 \times 92.581 \times 99.749} \approx \frac{489 \times 0.05 \times 2}{0.09 \times 93 \times 100}$$

$$= \frac{489}{9 \times 93 \times 10}$$

$$= \frac{163}{279} \times \frac{1}{10}$$

$$= \frac{0.58}{10}$$

= 0.058 = approx 0.06.

30- $0.002 \times 0.5 = ?$

- A.0.0001
- B.0.001
- C.0.01
- D.0.1
- E.None of these

Answer & Explanation

Answer - B (0.001)

Explanation - $2 \times 5 = 10$.

Sum of decimal places = 4

$$0.002 \times 0.5 = 0.001$$