

11- $.04 \times ? = .000016$

- A.0.0004
- B.0.004
- C.0.04
- D.4
- E.None of these

Answer & Explanation

Answer - A (0.0004)

Explanation -

$$\text{Let } .04 \times x = .000016. \text{ Then, } x = \frac{.000016}{.04} = \frac{.0016}{4} = .0004$$

12- Evaluate:

$$(2.39)^2 - (1.61)^2$$

$$\hline 2.39 - 1.61$$

- A.2
- B.4
- C.6
- D.8
- E.None of these

Answer & Explanation

Answer - B (4)

Explanation -

$$\text{Given Expression} = \frac{a^2 - b^2}{a - b} = \frac{(a + b)(a - b)}{(a - b)} = (a + b) = (2.39 + 1.61) = 4.$$

13- The value of

$$\frac{(0.96)^3 - (0.1)^3}{(0.96)^2 + 0.096 + (0.1)^2} \text{ is :}$$

- A.0.86
- B.0.95
- C.0.97

- **D.1.06**
- **E. None of these**

Answer & Explanation

Answer - **A** (0.86)

Explanation -

$$\begin{aligned}
 \text{Given expression} &= \frac{(0.96)^3 - (0.1)^3}{(0.96)^2 + (0.96 \times 0.1) + (0.1)^2} \\
 &= \frac{a^3 - b^3}{a^2 + ab + b^2} \\
 &= (a - b) \\
 &= (0.96 - 0.1) \\
 &= 0.86
 \end{aligned}$$

14- The value of:

$$0.1 \times 0.1 \times 0.1 + 0.02 \times 0.02 \times 0.02$$

$$0.2 \times 0.2 \times 0.2 + 0.04 \times 0.04 \times 0.04$$

- **A.0.0125**
- **B.0.125**
- **C.0.25**
- **D.0.5**
- **E. None of these**

Answer & Explanation

Answer - **B** (0.125)

Explanation -

$$\begin{aligned}
 \text{Given expression} &= \frac{(0.1)^3 + (0.02)^3}{2^3 [(0.1)^3 + (0.02)^3]} = \frac{1}{8} = 0.125
 \end{aligned}$$

15- If $2994 \div 14.5 = 172$, then $29.94 \div 1.45 = ?$

- **A.0.172**
- **B.1.72**
- **C.17.2**

- **D.172**
- **E.None of these**

Answer & Explanation

Answer - **C** (17.2)

Explanation -

$$\frac{29.94}{1.45} = \frac{299.4}{14.5}$$

$$= \frac{2994}{14.5} \times \frac{1}{10} \quad [\text{Here, Substitute 172 in the place of } 2994/14.5]$$

$$= \frac{172}{10}$$

$$= 17.2$$

16- Find the value of:

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

- **A.0.5**
- **B.1**
- **C.20**
- **D.22**
- **E.None of these**

Answer & Explanation

Answer - **B** (1)

Explanation -

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

17- Find the value of x:

$$\frac{144}{0.144} = \frac{14.4}{x}$$

- A.0.0144
- B.1.44
- C.14.4
- D.144
- E.None of these

Answer & Explanation

Answer - A (0.0144)

Explanation -

$$\frac{144}{0.144} = \frac{14.4}{x}$$

$$\frac{144 \times 1000}{144} = \frac{14.4}{x}$$

$$x = \frac{14.4}{1000} = 0.0144$$

18- The price of commodity X increases by 40 paise every year, while the price of commodity Y increases by 15 paise every year. If in 2001, the price of commodity X was Rs. 4.20 and that of Y was Rs. 6.30, in which year commodity X will cost 40 paise more than the commodity Y ?

- A.2010
- B.2011
- C.2012
- D.2013
- E.None of these

Answer & Explanation

Answer - B (2011)

Explanation - Suppose commodity X will cost 40 paise more than Y after z years.

$$\text{Then, } (4.20 + 0.40z) - (6.30 + 0.15z) = 0.40$$

$$0.25z = 0.40 + 2.10$$

$$z = \frac{2.50}{0.25} = \frac{250}{25} = 10.$$

X will cost 40 paise more than Y 10 years after 2001 i.e., 2011.

19- $40.83 \times 1.02 \times 1.2 = ?$

- **A.** 41.64660
- **B.** 42.479532
- **C.** 49.97592
- **D.** 58.7952
- **E.** None of these

Answer & Explanation

Answer - C (49.97592)

Explanation -

$$4083 \times 102 \times 12 = 4997592. \text{ Sum of decimal places} = 5$$

$$40.83 \times 1.02 \times 1.2 = 49.97592.$$

20- $(0.2 \times 0.2 + 0.01) (0.1 \times 0.1 + 0.02)^{-1}$ is equal to:

- **A.** 5/3
- **B.** 9/5
- **C.** 41/4
- **D.** 41/12
- **E.** None of these

Answer & Explanation

Answer - A (5/3)

Explanation -

$$\text{Given expression} = \frac{(0.2 \times 0.2 + 0.01)}{(0.1 \times 0.1 + 0.02)} = \frac{0.04 + 0.01}{0.01 + 0.02} = \frac{0.05}{0.03} = \frac{5}{3}$$

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