EXPRESSWALA ACADEMY

Decimals and Irrational Numbers

MCQ Test, Set 07

Time: 30 minutes | Maximum marks: 25

Name: _____ Class: _____ Date: _____

1. There are 25 questions. Each has exactly one correct answer: choose A, B, C or D.
2. Each correct answer carries 1 mark. There is no negative marking.
3. The key sheet and worked solutions are at the end of this test.

1. $\frac{204}{1000000} =$

A. 0.00204 **B.** 0.0204 **C.** 0.0000204 **D.** 0.000204

2. $\frac{6.6}{100000} =$

A. 0.00066 **B.** 0.000066 **C.** 0.0066 **D.** 0.0000066

3. $302.4 \times 10 =$

A. 3024 **B.** 30.24 **C.** 302.4 **D.** 30240

4. $0.611 \times \square = 61100$. The number in the box is

A. 100000 **B.** 1000 **C.** 1000000 **D.** 10000

5. 000.60600 is equal to

A. 0.66 **B.** 0.606 **C.** 6.06 **D.** 0.0606

6. $1000 + 90 + \frac{5}{10} + \frac{5}{1000} =$

A. 1090.505 **B.** 19.55 **C.** 19.505 **D.** 1090.55

7. In 163.594, the digit in the hundredths place is

A. 5 **B.** 9 **C.** 3 **D.** 4

8. Without actual division, $\frac{23}{40} =$

A. 5.75 **B.** 0.23 **C.** 0.0575 **D.** 0.575

9. By the division method, $\frac{53}{8} =$

A. 66.25 **B.** 6.5 **C.** 6.625 **D.** 0.6625

10. Which fraction has a non-terminating recurring decimal form?

A. $\frac{6}{55}$ **B.** $\frac{7}{16}$ **C.** $\frac{3}{50}$ **D.** $\frac{21}{250}$

11. $\frac{1}{7}$ in decimal form is

A. $0.\overline{1}$ **B.** $0.\overline{14}$ **C.** $0.\overline{142857}$ **D.** 7

12. 3.2 as a rational number in simplest form is

A. $\frac{8}{25}$ **B.** $\frac{7}{2}$ **C.** $\frac{16}{5}$ **D.** $\frac{5}{16}$

13. In the form $\frac{p}{q}$, $0.\overline{6} =$

A. $\frac{2}{33}$ **B.** $\frac{2}{3}$ **C.** $\frac{3}{5}$ **D.** $\frac{1}{15}$

14. $0.2\overline{18} =$

A. $\frac{8}{37}$ **B.** $\frac{12}{55}$ **C.** $\frac{109}{495}$ **D.** $\frac{218}{999}$

15. Add 3.142 and 15.9.

A. 1.9042 **B.** 18.042 **C.** 19.042 **D.** 3.301

16. Subtract 12.9 from 30.04.

A. 17.14 **B.** 28.75 **C.** -17.14 **D.** 22.94

17. $0.011 \times 0.7 =$

A. 0.77 **B.** 0.077 **C.** 0.0077 **D.** 0.00077

18. Find 0.65×0.32.

A. 0.0208 **B.** 2.08 **C.** 0.208 **D.** 0.0325

19. $(0.12)^2 =$

A. 0.00144 **B.** 0.144 **C.** 0.24 **D.** 0.0144

20. $12.24 \div 4 =$

A. 30.6 **B.** 3.06 **C.** 3.6 **D.** 0.306

21. $0.5 \div 0.025 =$

A. 200 **B.** 20 **C.** 2 **D.** 0.2

22. $0.5 \times 0.5 + 0.2 \times 0.2 =$

A. 0.49 **B.** 2.9 **C.** 0.029 **D.** 0.29

23. $\frac{1}{5} + \frac{3}{8} + \frac{1}{2} =$ (decimal form)

A. 1.075 **B.** 0.01075 **C.** 10.75 **D.** 0.1075

24. If $7752 \div 34 = 228$, then $77.52 \div 3.4 =$

A. 2.28 **B.** 228 **C.** 0.228 **D.** 22.8

25. The product of two decimals is 17.85. One of them is 2.1. The other is

A. 85 **B.** 0.085 **C.** 0.85 **D.** 8.5

Key sheet

1. D	**2.** B	**3.** A	**4.** A	**5.** B
6. A	**7.** B	**8.** D	**9.** C	**10.** A
11. C	**12.** C	**13.** B	**14.** B	**15.** C
16. A	**17.** C	**18.** C	**19.** D	**20.** B
21. B	**22.** D	**23.** A	**24.** D	**25.** D

Solutions

1. $\frac{204}{1000000} =$

1000000 has 6 zeros: move the point 6 places to the left.

$\frac{204}{1000000} = 0.000204$

Ans: (D) 0.000204

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2. $\frac{6.6}{100000} =$

Dividing by 100000: move the point 5 places to the left.

$\frac{6.6}{100000} = 0.000066$

Ans: (B) 0.000066

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3. $302.4 \times 10 =$

Multiplying by 10: move the point 1 place to the right.

$302.4 \times 10 = 3024.0 = 3024$

Ans: (A) 3024

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4. $0.611 \times \square = 61100$. The number in the box is

The point moved 5 places to the right, so we multiplied by 100000.

Ans: (A) 100000

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5. 000.60600 is equal to

Only the zeros in front of the whole part and at the end of the decimal part can be removed.

Zeros in the middle stay: $000.60600 = 0.606$

Ans: (B) 0.606

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6. $1000 + 90 + \frac{5}{10} + \frac{5}{1000} =$

Write each digit in its place and put 0 where a place is missing.

Thousands 1, hundreds 0, tens 9, ones 0, tenths 5, hundredths 0, thousandths 5

$= 1090.505$

Ans: (A) 1090.505

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7. In 163.594, the digit in the hundredths place is

After the point: tenths, hundredths, thousandths, ten-thousandths.

The hundredths digit of 163.594 is 9.

Ans: (B) 9

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8. Without actual division, $\frac{23}{40} =$

$\frac{23}{40} = \frac{23 \times 5 \times 5}{2 \times 2 \times 2 \times 5 \times 5 \times 5}$

$= \frac{575}{10 \times 10 \times 10} = \frac{575}{1000} = 0.575$

Ans: (D) 0.575

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9. By the division method, $\frac{53}{8} =$

$53 - 48 = 5$, $50 - 48 = 2$, $20 - 16 = 4$, $40 - 40 = 0$

$\therefore \frac{53}{8} = 6.625$

The first remainder 5 is not the decimal part: keep dividing.

Ans: (C) 6.625

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10. Which fraction has a non-terminating recurring decimal form?

$55 = 5 \times 11$ has a factor other than 2 and 5, so it is non-terminating recurring.

The other denominators have only 2s and 5s, so they terminate.

Ans: (A) $\frac{6}{55}$

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11. $\frac{1}{7}$ in decimal form is

$10 - 7 = 3$, $30 - 28 = 2$, $20 - 14 = 6$, $60 - 56 = 4$, $40 - 35 = 5$, $50 - 49 = 1$: the remainder repeats.

$\frac{1}{7} = 0.142857142857\ldots = 0.\overline{142857}$

Ans: (C) $0.\overline{142857}$

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12. 3.2 as a rational number in simplest form is

$3.2 = \frac{32}{10} = \frac{16}{5}$

Ans: (C) $\frac{16}{5}$

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13. In the form $\frac{p}{q}$, $0.\overline{6} =$

$10x = 6.666666\ldots$, $x = 0.666666\ldots$

$(-)\ 9x = 6$, $x = \frac{6}{9} = \frac{2}{3}$

Ans: (B) $\frac{2}{3}$

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14. $0.2\overline{18} =$

$1000x = 218.181818\ldots$, $10x = 2.181818\ldots$

$(-)\ 990x = 216$, $x = \frac{216}{990} = \frac{12}{55}$

(Short method: $\frac{218-2}{990}$)

Ans: (B) $\frac{12}{55}$

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15. Add 3.142 and 15.9.

Keep the decimal points in one line:

$$\begin{array}{r} 3.142 \\ +\ 15.900 \\ \hline 19.042 \end{array}$$

Ans: (C) 19.042

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16. Subtract 12.9 from 30.04.

Keep the decimal points in one line (fill zeros):

$$\begin{array}{r} 30.04 \\ -\ 12.90 \\ \hline 17.14 \end{array}$$

Subtract 12.9 from 30.04 means $30.04 - 12.9$.

Ans: (A) 17.14

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17. $0.011 \times 0.7 =$

Multiply without the points: $11 \times 7 = 77$

Decimal places: $3 + 1 = 4$

$0.011 \times 0.7 = 0.0077$

Ans: (C) 0.0077

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18. Find 0.65×0.32.

Multiply without the points: $65 \times 32 = 2080$

Decimal places: $2 + 2 = 4$

$0.65 \times 0.32 = 0.2080 = 0.208$

Ans: (C) 0.208

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19. $(0.12)^2 =$

$(0.12)^2 = 0.12 \times 0.12$

$12 \times 12 = 144$; decimal places $2 + 2 = 4$

$(0.12)^2 = 0.0144$ (not 0.12×2)

Ans: (D) 0.0144

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20. $12.24 \div 4 =$

$\frac{12.24}{4} = \frac{1224}{100 \times 4}$

$1224 \div 4 = 306$

$= \frac{306}{100} = 3.06$

Ans: (B) 3.06

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21. $0.5 \div 0.025 =$

$\frac{0.5}{0.025} = \frac{0.5 \times 1000}{0.025 \times 1000} = \frac{500}{25}$

$500 \div 25 = 20$

Ans: (B) 20

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22. $0.5 \times 0.5 + 0.2 \times 0.2 =$

$0.5 \times 0.5 = 0.25$, $0.2 \times 0.2 = 0.04$

$0.25 + 0.04 = 0.29$ (not $(0.5 + 0.2)^2$)

Ans: (D) 0.29

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23. $\frac{1}{5} + \frac{3}{8} + \frac{1}{2} =$ (decimal form)

LCM of 5, 8, 2 is 40.

$\frac{1}{5} + \frac{3}{8} + \frac{1}{2} = \frac{8+15+20}{40} = \frac{43}{40}$

$= 1.075$

Ans: (A) 1.075

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24. If $7752 \div 34 = 228$, then $77.52 \div 3.4 =$

$\frac{77.52}{3.4} = \frac{7752 \div 100}{34 \div 10}$

$= 228 \div 10 = 22.8$

Ans: (D) 22.8

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25. The product of two decimals is 17.85. One of them is 2.1. The other is

$x = \frac{17.85}{2.1} = \frac{178.5}{21}$

$= 8.5$

Check: $8.5 \times 2.1 = 17.85$

Ans: (D) 8.5