NTS GAT General Past Papers Questions

Quantitative – Exam No. 16

Decimal Problems

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Formulas:

1. Following values are equal:

$$24 = 24. = 24.0 = 24.00 = 24.000$$

$$.02 = 0.02 = 0.020 = 0.0200$$

2. When adding or subtracting two numbers having decimals, then keep in mind that decimal must be under decimal. For example: $24.1 + 0.0042$

$$\begin{array}{r} 2\ 4\ .\ 1 \\ 0\ .\ 0\ 0\ 4\ 2 \\ \hline 2\ 4\ .\ 1\ 0\ 4\ 2 \end{array}$$

3. Fractions to decimal:

Fraction	Decimal	Fraction	Decimal
$^1/_8$	0.125	$^5/_8$	0.625
$^2/_8 = {}^1/_4$	0.25	$^6/_8 = {}^3/_4$	0.75
$^3/_8$	0.375	$^7/_8$	0.875
$^4/_8 = {}^1/_2$	0.5	$^8/_8$	1

Exercise:

1. Simplify: 0.03% (PP)

Solution:

$$0.03\% = \frac{0.03}{100} = 0.0003$$

2. Simplify: (PP)

$$3 \times 0.3 \times 0.03 \times 0.003 \times 30$$

Solution:

First of all, count the number of digits after decimal and add them together.

$$0 + 1 + 2 + 3 + 0 = 6$$

Secondly, ignore the decimal and multiply the values simply.

$$3 \times 3 \times 3 \times 3 \times 30 = 2{,}430$$

In the last step, you have to right 6 digits after the decimal.

$$= 0.002430$$

Or it can also be written as follows:

$$= 0.00243$$

3. Simplify: 0.01×0.01 (PP)

Solution:

First of all, count the number of digits after decimal and add them together.

$$2 + 2 = 4$$

Secondly, ignore the decimal and multiply the values simply.

$$1 \times 1 = 1$$

In the last step, you have to right 4 digits after the decimal.

$$= 0.0001$$

4. Simplify: $\frac{1}{100} \times 0.2 \times 0.002$

Solution:

$$0.01 \times 0.2 \times 0.002$$

First of all, count the number of digits after decimal and add them together.

$$2 + 1 + 3 = 6$$

Secondly, ignore the decimal and multiply the values simply.

$$1 \times 2 \times 2 = 4$$

In the last step, you have to right 6 digits after the decimal.

$$= 0.000004$$

5. Simplify: 0.2×0.005 (PP)

Solution:

First of all, count the number of digits after decimal and add them together.

$$1 + 3 = 4$$

Secondly, ignore the decimal and multiply the values simply.

$$2 \times 5 = 10$$

In the last step, you have to right 4 digits after the decimal.

$$= 0.0010$$

Or it can also be written as follows:

$$= 0.001$$

6. Simplify: $\sqrt{0.09}$ or $(0.09)^{1/2}$ or $(0.09)^{0.5}$ (PP)

Solution:

$$\sqrt{0.09} = \sqrt{\frac{9}{100}} = \frac{\sqrt{9}}{\sqrt{100}} = \frac{3}{10} = 0.3$$

7. Simplify: $0.08 + 0.09 \div 0.1$

Solution:

$$= 0.08 + \frac{0.09}{0.1} = 0.08 + \frac{0.09}{0.10}$$

$$= 0.08 + \frac{9}{10} = 0.08 + 0.9 = 0.98$$

8. Simplify: $0.9 \div 0.3 \times 0.3$ (PP)

Solution:

$$= 0.9 \div 0.3 \times 0.3$$

$$= \frac{0.9}{0.3} \times 0.3 = 0.9$$

9. Simplify: 0.0064 (PP)

(A) $(1/8)^2$

(B) $(8/100)^2$

(C) $(8/1000)^2$

(D) $(64/1000)^2$

Solution:

$$= \frac{64}{10000} = \frac{8 \times 8}{100 \times 100} = \frac{8}{100} \times \frac{8}{100} = \left(\frac{8}{100}\right)^2$$

So, option (B) is correct.

10. Which one of the following has smallest value? (PP)

(A) 0.2

(B) 0.02

(C) $(0.2)^2$

(D) $(0.2)^3$

Solution:

As option (A) and option (B) are already given in simple form, therefore no need to solve them. By solving option (C) and option (D) as follows:

$$(0.2)^2 = 0.2 \times 0.2 = 0.04$$

$$(0.2)^3 = 0.2 \times 0.2 \times 0.2 = 0.008$$

Option (D) has the smallest value i.e., $(0.2)^3$.

11. Simplify: (PP)

$$\frac{900}{10}+\frac{90}{100}+\frac{9}{1000}$$

Solution:

$$=\frac{900}{10}+\frac{90}{100}+\frac{9}{1000}$$

$$=90+0.9+0.009=90.909$$

12. Which of the following number is closest to the square root of 0.0017? (PP)

(A) 0.05

(B) 0.13

(C) 0.4

(D) 0.04

Solution:

Let we calculate the square root of 0.0016 as it is closest to 0.0017:

$$=\sqrt{\frac{16}{10{,}000}}=\frac{\sqrt{16}}{\sqrt{10{,}000}}=\frac{4}{100}=0.04$$

13. Simplify: $0.02 \div 20$ (PP)

Solution:

$$=\frac{0.02}{20}=\frac{2}{100\times 20}=\frac{2}{2000}=\frac{1}{1000}=0.001$$

14. Simplify: (PP)

$$\frac{0.6+0.6+0.6+0.6+0.6}{5}$$

Solution:

$$=\frac{0.6(1+1+1+1+1)}{5}=\frac{0.6(5)}{5}=0.6$$

15. Simplify: $0.18-0.24-0.9-0.2+2$

Solution:

$$= 0.18 - 0.24 - 0.9 - 0.2 + 2$$

$$= (0.18 + 2) - 0.24 - 0.9 - 0.2$$

$$= 2.18 - 1.34 = 0.84$$

16. Simplify: $2.25 - 8.19 - 2.85 - 4.8 + 1$

Solution:

$$= 2.25 - 8.19 - 2.85 - 4.8 + 1$$

$$= (2.25 + 1) - 8.19 - 2.85 - 4.8$$

$$= 3.25 - 15.84 = -12.59$$

17. Simplify: $25 \div 0.25$ (PP)

Solution:

$$= \frac{25}{0.25} = \frac{25 \times 100}{25} = \frac{1 \times 100}{1} = 100$$

18. Simplify: (PP)

$$\frac{23}{1{,}000} + \frac{6}{100} + \frac{7}{10}$$

Solution:

Simplifying as follows:

$$= 0.023 + 0.06 + 0.7$$

$$= 0.783$$