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Simplification Questions for Competitive Exams

Simplification MCQ Questions for Competitive Exams. Objective Questions selected from the previous year Exam Question paper of SSC CGL, CPO, CHSL, GD, Police, Bank and UPSSSC. Type wise Question and Answer with solution and explanation.

Simplification Questions : Type wise

Type I : BODMAS (Bracket, Of, Division, Multiplication, Addition, Subtraction)

Q.1: $3\frac{3}{5} \times 3\frac{3}{5} + 2 \times 3\frac{3}{5} \times \frac{2}{5} + \frac{2}{5} \times \frac{2}{5} = ?$

a) 15

b) 16

c) 17

d) 18

Show Answer

Ans : b) 16

$(a+b)^2 = a^2 + b^2 + 2ab$

$(3\frac{3}{5} + \frac{2}{5})^2 = (\frac{18+2}{5})^2 = 4^2 = 16$

Q. 2: The simplified value of the following is :

$\frac{4}{15} of \frac{5}{8} \times 6 + 15 - 10$

a) 6

b) 3

c) 5

d) 4

Show Answer

Ans : a) 6

$\frac{4}{15} of \frac{5}{8} \times 6 + 15 - 10 = \frac{1}{6} \times 6 + 15 - 10$ =1+15-10 =6

Q.3: (0.9 × 0.9 × 0.9 + 0.1 × 0.1 × 0.1) is equal to

a) 0.73

b) 0.82

c) 0.91

d) 1.00

Show Answer

Ans : a) 0.73

$(0.9)^3 + (0.1)^3 = 0.729 + 0.001 = 0.730$

Q.4: The value of the following is

$(0.98)^3 + (0.02)^3 + 3 \times 0.98 \times 0.02 - 1$

a) 1.98

b) 1.09

c) 1

d) 0

Show Answer

Ans : d) 0

$(0.98)^3 + (0.02)^3 + 3 \times 0.98 \times 0.02 - 1 = (0.98)^3 + (0.02)^3 + 3 \times 0.98 \times 0.02 (0.98 + 0.02) - 1$

$= (0.98 + 0.02)^3 - 1 = 1 - 1 = 0$

$(a+b)^3 = a^3 + b^3 + 3ab (a+b)$

Q.5: If * represent a number, than the value of * in following equation is

$5\frac{3}{*} \times 3\frac{1}{2} = 19$

a) 7

b) 4

c) 6

d) 2

Show Answer

Ans : a) 7

$5\frac{3}{*} \times 3\frac{1}{2} = 19 = \frac{5\times *+3}{*} \times \frac{7}{2} = 19$

= 35 * +21 = 38 *

= 3 * = 21, * = 7

Q.6: $\frac{17}{15} \times \frac{17}{15} + \frac{2}{15} - \frac{17}{15} \times \frac{4}{15}$ is equal to

a) 0

b) 1

c) 10

d) 11

Show Answer

Ans : b) 1

$(a - b)^2 = a^2 + b^2 - 2ab$

$(\frac{17}{15} - \frac{2}{15})^2 = 1^2 = 1$

Q.7: $\frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90} + \frac{1}{110} = ?$

a) $\sqrt{2}\frac{2}{27}$

b) $\frac{1}{9}$

c) $\frac{5}{27}$

d) $\frac{6}{55}$

Show Answer

Ans : d) $\frac{6}{55}$

$= \frac{1}{5\times6} + \frac{1}{6\times7} + \frac{1}{7\times8} + \frac{1}{8\times9} + \frac{1}{9\times10} + \frac{1}{10\times11}$

$= \frac{1}{5} - \frac{1}{6} + \frac{1}{6} - \frac{1}{7} + \frac{1}{7} - \frac{1}{8} + \frac{1}{8} - \frac{1}{9} + \frac{1}{9} - \frac{1}{10} + \frac{1}{10} - \frac{1}{11}$

$= \frac{1}{5} - \frac{1}{11} = \frac{6}{55}$

Q.8: 5-[4-{3-(3-3-6)}] is equal to

a) 10

b) 6

c) 4

d) 0

Show Answer

Ans : a) 10

5-[4-{3-(3-3-6)}] = 5-[4-{3-(-6)}] = 5-[4-{3+6}] = 5-[4-9] =5 -[-5] =10

Type-II: Continued Fraction : Simplification Questions

Q.9: Find the value of

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

a) $\frac{12}{29}$

b) $\frac{8}{19}$

c) $\frac{48}{29}$

d) $\frac{2}{19}$

Show Answer

Ans : c) $\frac{48}{29}$ [\toggle]

Q.10: If $$2 = x + \frac{1}{1 + \frac{1}{3 + \frac{1}{4}}}$$

than the value of x is

a) $\frac{18}{17}$

b) $\frac{21}{17}$

c) $\frac{13}{17}$

d) $\frac{12}{17}$

[toggle] **Ans : b)** $\frac{21}{17}$

Simplification MCQ Questions for Competitive Exams

Type – III: Square and Square Root : Simplification for Competitive Exams

Q.11: A number of boys raised ₹ 12544 for a famine fund, each boy has given as many rupees as there were boys. The number of boys was ?

a) 102

b) 112

c) 122

d) 132

Show Answer

Ans : b)112

Number of Boys x Amount Contributed = 12544 = 112^2

Number of Boys = Amount Contributed = 112

Q.12: The sum of two numbers is 37 and the difference of their squares is 185, then the difference between the two numbers is :

a) 10

b) 4

c) 5

d) 3

Show Answer

Ans : c) 5

a+b=37, a^2-b^2 = 185

a^2-b^2 = (a-b) (a+b)

185 = (a-b) x 37

a-b = 185/37 =5

Q.13: The value of $(11111)^2$ is

a) 12344321

b)121212121

c) 123454321

d) 11244311

Show Answer

Ans : c) 123454321

11^2 =121

111^2 =12321

1111^2 = 1234321

11111^2 = 123454321

Q.14: The square root of following is :

$\frac{9.5\times0.085}{0.017\times0.019}$

a) 0.5

b) 5

c) 50

d) 500

Show Answer

Ans : c) 50

$\frac{9.5\times0.085}{0.017\times0.019} = 50 \times 50$

Square Root is 50

Q.15: $\sqrt{64} - \sqrt{36}$ is equal to :

a) -2

b) 2

c) 0

d) 1

Show Answer

Ans : b) 2

8-6=2

Q.16 : The sum of the squares of 3 consecutive positive numbers is 365. The sum of the numbers is :

a) 30

b) 33

c) 36

d) 45

Show Answer

Ans : b) 33

$10^2+11^2+12^2$ = 100+121+144 = 365

10+11+12 = 33

Q.17: Given that $\sqrt{24}$ is approximately equal to 4.898. Then $\sqrt{\frac{8}{3}}$ is nearly equal to :

a) 0.544

b) 1.333

c) 1.633

d) 2.666

Show Answer

Ans : c) 1.633

$\sqrt{\frac{8}{3}} = \sqrt{\frac{8\times3}{3\times3}} = \frac{\sqrt{24}}{3} = \frac{4.898}{3} = 1.633$

Q.18: The value of $\frac{(75.8)^2-(55.8)^2}{20}$

a) 20

b) 40

c) 121.6

d) 131.6

Show Answer

Ans : d) 131.6

$\frac{(75.8)^2-(55.8)^2}{20} = \frac{(75.8-55.8)(75.8+55.8)}{20} = \frac{20\times131.6}{20} = 131.6$

Q.19: $\sqrt{\frac{0.49}{0.25}} + \sqrt{\frac{0.81}{0.36}}$ is equal to :

a) $7\frac{9}{10}$

b) $2\frac{9}{10}$

c) $\frac{9}{10}$

d) $9\frac{9}{10}$

Show Answer

Ans : b) $2\frac{9}{10}$

$\sqrt{\frac{49}{25}} + \sqrt{\frac{81}{36}}$

$\frac{7}{5} + \frac{9}{6} = \frac{87}{30} = \frac{29}{10} = 2\frac{9}{10}$

Q.20: When simplified, the product is equals to :

$(2-\frac{1}{3})(2-\frac{5}{7})$.....$(2-\frac{997}{999})$

a) $latex \frac {5}{999}

b) $latex \frac {5}{3}

c) $latex \frac {1001}{999}

d) $latex \frac {1001}{3}

Show Answer

Ans : d) $latex \frac {1001}{3}

$\frac{3}{5} \times \frac{7}{5} \times \frac{9}{7} \times$ ..... $\times \frac{1001}{999} = \frac{1001}{3}$

Simplification Objective Questions for Competitive Exams

Type IV : Cube and Cube Root : Simplification

Q.21: What is the smallest number by which 625 must be divided so that the quotient is a perfect cube?

a) 25

b) 5

c) 2

d) 3

Show Answer

Ans : b) 5

625 = 5x5x5x5

Divide by 5 for cube.

Q.22: $\sqrt[3]{0.000125}$ is equal to

a) 0.5

b) 0.15

c) 0.05

d) 0.005

Show Answer

Ans : c) 0.05

$\sqrt[3]{0.000125} = \sqrt[3]{(0.05)^3} = 0.05$

Q.23: $\sqrt[3]{\sqrt{0.000064}}$ is equal to :

a) 0.0002

b) 0.02

c) 0.002

d) 0.2

Show Answer

Ans : d) 0.2

$\sqrt[3]{\sqrt{0.000064}} = \sqrt[3]{0.008} = 0.2$

Q.24: $\sqrt[3]{\frac{19}{513}}$ is equal to :

a) $\frac{1}{9}$

b) $\frac{1}{3}$

c) $\frac{1}{\sqrt{27}}$

d) $\frac{1}{\sqrt{3}}$

Show Answer

Ans : b) $\frac{1}{3}$

$\sqrt[3]{\frac{19}{513}} = \sqrt[3]{\frac{1}{27}} = \frac{1}{3}$

Q.25: The least possible value of A for which 90 × A is a perfect cube is :

a) 200

b) 300

c) 500

d) 600

Show Answer

Ans : b) 300

90 x A = 2x3x3x5xA

Therefore, A = 2x2x3x5x5 = 300

Q.26: The square of a natural number subtracted from its cube is 48. The number is :

a) 8

b) 6

c) 5

d) 4

Show Answer

Ans : d) 4

$n^3 - n^2 = 48$

$n^2(n-1) = 16 \times 3 = 4^2(4-1)$

n = 4

Thanks for attempt Simplification Questions for Govt jobs Competitive Exams

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