BODMAS

CLASS 1

SIMPLIFICATION & APRROXIMATION

Question 1

What value should come in the place of (?) in the following question?

35% of $1200 + 55 \times 3 - 12^2 = ?^2$

a. 24

b. 18

c. 17

d. 20

e. 21 ✓

$420 + 165 - 144 = a^2$

$441 = a^2$

$21 = a$

$\frac{35}{100} \times 1200$

1200

$120 \times 3 = 360$

$360 + 60 = 420$

$420 + 165 = 585$

$585 - 144 = 441$

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Question 2

What value should come in the place of (?) in the following question?

$\sqrt[3]{125} \times 8 - 78 \times (3/2) = (?/4) + 4^2$

a. -455

b. -372

c. -287

d. -199

e. -525

$5 \times 8 - 39 \times \frac{3}{1} = \frac{a}{4} + 16$

$40 - 117 - 16 = \frac{a}{4}$

$40 - 133 = \frac{a}{4}$

$-93 \times 4 = a$

$-372 = a$

117
16
133
40
93

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Question 3

What value should come in the place of (?) in the following question?

(30% of 200 + 16 × 5) × (3/7) = $?^3$ - 4

a. 11

b. 8

c. 4

d. 12

e. 9

$\Rightarrow (60+80) \times \frac{3}{7} + 4 = a^3$

$\Rightarrow \frac{140}{1} \times \frac{3}{7} + 4 = a^3$

$\Rightarrow 64 = a^3$

$4 = a$

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Question 4

What value should come in the place of (?) in the following question?

$(220 / 20) \times 5 \times 3 = ? + 6^3$

a. -33

b. -51

c. -49

d. 45

e. 86

$11 \times 15 = a + 216$

$165 - 216 = a$

$-51 = a$

216
165
51

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Question 5

What value should come in the place of (?) in the following question?

[108 × (144)^(1/2) / 16] + ?% of 200 = 83

a. 4

b. 2

c. 8

d. 6

e. 1

$144^{1/2} = \sqrt{144}$

$\left(\frac{27}{108} \times \frac{144}{16}\right) + a\%\text{ of } 200 = 83$

$\left(\frac{27}{4} \times \frac{3}{12}\right) + a\%\text{ of } 200 = 83$

$\frac{a}{100} \times 200 = 83 - 81$

$a = \frac{2}{2}$

$a = 1$

$4.4 \simeq 4$
$4.5 \simeq 5$

Question 6

What approximate value should come in the place of (?) in the following question?

$(3640.12 \times 7.98 / 2.01^2) + 18.18^2 = ? \times 3.98$

a. 1880

b. 1901

c. 2145

d. 2880

e. 3240

$3640 \times \frac{8}{2^2} + 18^2 = a \times 4$

$3640 \times \frac{8}{4} + 324 = 4a$

$\frac{7280 + 324}{4} = a$

$\frac{7604}{4} = a$

$1901 = a$

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Question 7

What approximate value should come in the place of (?) in the following question?

(1 / 3.1) × 1200 + 48.98 - ? = 125.12

a. 368

b. 324

c. 288

d. 205

e. 145

$\frac{1}{3} \times 400 + 49 - a = 125$

$449 - 125 = a$

$324 = a$

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Question 8

What approximate value should come in the place of (?) in the following question?

51.98 + (25.12² / 4.98) = ? - 72.98% of 700.12

a. 728

b. 650

c. 688 ✓

d. 810

e. 526

$52 + \left(\frac{25^2}{5}\right) = a - 73\% \text{ of } 700$

$52 + \left(\frac{5 \times 25}{1}\right) = a - \frac{73}{100} \times 700$

$52 + 125 + 511 = a$

$688 = a$

2 73 x 7 / 511

125 / 52 / 511 / 688

Question 9

What approximate value should come in the place of (?) in the following question?

$546.12 - 19.12 \times 4.98 + ? = 9.12^3$

a. 325

b. 345

c. 278 ✓

d. 200

e. 415

$546 - 19 \times 5 + a = 9^3$

$546 - 95 + a = 729$

$a = 729 - 451$

$a = 278$

$\begin{array}{r} 546 \\ 95 \\ \hline 451 \end{array}$

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Question 10

What approximate value should come in the place of (?) in the following question?

49.98% of 320.12 - 2.12^3 × 3.12 = ?

a. 156

b. 128

c. 136 ✓

d. 212

e. 200

= 50% of 320 − 2^3 × 3

= 160 − 8×3

= 160 − 24

= 136

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Question 11

What value should come in the place of (?) in the following question?

$?^2 - 49 = 67 - 38 \times 5 + 270$

a. 12

b. 8

c. 10

d. 14

e. 21

$a^2 - 49 = 67 - 190 + 270$

$a^2 = 196$

$a = 14$

270
67
337

49
366

2 | 196
1 | 96
196

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Question 12

What value should come in the place of (?) in the following question?

$5 \times ? - 35/7 = [1575 + (50/2)] / 4$

a. 72

b. 65

c. 80

d. 56

e. 81 ✓

$5 \times a - 5 = \frac{1575+25}{4}$

$5a = \frac{1600}{4} + 5$

$5a = 405$

$a = 81$

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Question 13

What value should come in the place of (?) in the following question?

200% of 30 - 227 = 20% of 500 - ?

a. 267

b. 252

c. 190

d. 157

e. 288

$\frac{200}{100} \times 30$

$60 - 227 = 100 - a$

$a = 100 - 60 + 227$

$= 40 + 227$

$a = 267$

Question 14

What value should come in the place of (?) in the following question?

(1089 × 3) / (33 × 9) = ? + (729)^(1/3)

a. 4

b. 2

c. 8

d. 7

e. 5

$(1089 \times 3) \div (33 \times 9) = a + 729^{1/3}$

$\frac{1089 \times 3}{33 \times 9} = a + 9$

$11 - 9 = a$

$2 = a$

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Question 15

What value should come in the place of (?) in the following question?

[4(2/5) + 2(3/5)] × 250 = ? + 30

a. 2115

b. 1720

c. 1080

d. 1920

e. 980

$\left(4\frac{2}{5}+2\frac{3}{5}\right) \times 250 = a+30$

$(4+2)+\left(\frac{2}{5}+\frac{3}{5}\right) \times 250 - 30 = a$

$6+1 \times 250 - 30 = a$

$1750 - 30 = a$

$1720 = a$

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Question 16

What approximate value should come in the place of (?) in the following question?

$1.98^2 \times 3.9 + 189.98 = ? + 209.12$

a. -26

b. -8

c. -13

d. -3

e. -33

$2^2 \times 4 + 190 = a + 209$

$16 + 190 - 209 = a$

$206 - 209 = a$

$-3 = a$

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Question 17

What approximate value should come in the place of (?) in the following question?

55.98 × 5.98 + (103.98 / 13) = ? / 9.01

a. 2880

b. 3096

c. 2180

d. 2000

e. 3425

$56 \times 6 + \left(\frac{104}{13}\right) = \frac{a}{9}$

$336 + 8 = \frac{a}{9}$

$344 \times 9 = a$

$3096 = a$

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Question 18

What approximate value should come in the place of (?) in the following question?

350% of 70.12 + 21.22 × 4.98 = ? - 14.12 × 4.98

a. 380

b. 400

c. 360

d. 420

e. 500

350% of 70 + 21 × 5 = a − 14 × 5

$\frac{350}{100} \times 70 + 105 = a - 70$

245 + 105 + 70 = a

420 = a

Question 19

What approximate value should come in the place of (?) in the following question?

47.01 × (576)^(1/2) - 109.98 × 8.98 = ? × (3/5)

a. 198

b. 210

c. 176

d. 240

e. 230 ✓

$47 \times (576)^{1/2} - 110 \times 9 = a \times \frac{3}{5}$

$47 \times 24 - 990 = a \times \frac{3}{5}$

$\frac{46}{138} \times \frac{5}{3} = a$

$230 = a$

47 × 24
940
188
1128

1128
− 990
138

Question 20

What approximate value should come in the place of (?) in the following question?

$(39.98 \times 5.12) + (12.12 \times 2.98) = ?^3 + 19.89$

a. 5

b. 3

c. 7

d. 6

e. 2

$(40 \times 5) + (18 \times 3) = a^3 + 20$

$200 + 36 - 20 = a^3$

$236 - 20 = a^3$

$216 = a^3$

$6 = a$

PRACTICE QUESTIONS

Question 21

What value should come in the place of (?) in the following question?

25% of 200 - 420 + 5^3 = 5 × ? - 300

a. 30

b. 21

c. 12

d. 11

e. 24

Question 22

What value should come in the place of (?) in the following question?

46 × 3 - 5 × (36)^(1/2) = ? - 7 × 6

a. 156

b. 152

c. 150

d. 228

e. 245

Question 23

What value should come in the place of (?) in the following question?

(61^2 - 21^2) / 20 + 18% of 300 = ? / 3

a. 345

b. 185

c. 215

d. 320

e. 222

Question 24

What value should come in the place of (?) in the following question?

$[(16^2 \times 3) / 64] + 188 - 23 = ? \times 3 - 120$

a. 98

b. 89

c. 71

d. 99

e. 96

Question 25

What value should come in the place of (?) in the following question?

88% of 1200 - 56% of 400 + 215 = ?

a. 1047

b. 1145

c. 2180

d. 3240

e. 880