[Simplification](#) generally means finding an answer for the complex calculation that may involve numbers on division, multiplication, square roots, cube roots, plus and minus.

Rules Related to Simplification

Rule-(I) Replace 'of' by 'Multiplication' & '/' by 'Division'.

Explanation: Whenever we find 'of' in a simplification problem, we can replace that with 'multiplication(*)'. Similarly '/' can be replaced by '÷'.

Example: **Find ¼ of 20**

Solution: (¼) x 20 = 20÷4 = 5

Rule-(II) Always keep in mind the "BODMAS" rule. These operations have priorities in the same order as mentioned.

Explanation: Whenever we have more than one operation in the given calculation, we have to do the operations according to the priority specified by 'BODMAS'

- B-Bracket
- O-Of (means multiplication)
- D-Division
- M-Multiplication
- A-Addition
- S-Subtraction

Example: **Simplify: (2+3)*30**

Solution: In this question, we have two things-Bracket & Multiplication. According to the BODMAS rule, we have to solve the bracket first and not multiplication. So now coming to the bracket, we have only one operation-Addition, so we will do addition.

(2+3)*30 = 5*30

Now we have only one operation to do −

7*80 = 560

Rule-(III) Multiplication & Division have the same priority(Do that operation first which is on left)

Explanation: Though division has more priority than multiplication according to 'BODMAS', we can perform any two operations first if multiplication is on the left.

Example: 8*30/15

   8*30 ÷ 15

Solution: In this question, we have two things – Multiplication & Division. Multiplication is on the left So we can perform that first.

Doing Multiplication first:

   240 ÷ 15

   16

Dividing first:

   8*2

   16

Rule-(IV) Addition & Subtraction have the same priority.

Explanation: Though addition has more priority than division according to 'BODMAS', we can perform any two operations first.

Example: 30+40-15

Solution: In this question, we have two things – Addition & Subtraction. So we can perform any operation first as they have the same priority.

Doing Addition first:

   70 − 15

   55

Doing Subtraction first:

   30 + 25

   55

Rule-(V) Don't hesitate in rounding the numbers to the nearest integers.

Explanation: Most of the time the numbers are given in such a way that you can round them quickly and get the answer (Rounding should be done or not, It can be realized by looking at the given options).

Example: **(324.5*15)/(5.01*24.98)**

Solution: (325*15)/(5*25)

=13*3

=39

Previous Years Questions Asked in Bank Exams from Simplification

Now let us see some of the previous year questions asked from 'Simplification' & try to apply the rules learnt so far.

Q. 1) $(17 -13)^4 - 17^4 - 13^4 - [- 52(17)^3 - 68(13^3)] = (?)*221$

Using formula: $(a - b)^4 = a^4 - 4a^3b + 6a^2b^2 - 4ab^3 + b^4)$
$\Rightarrow (a - b)^4 - a^4 + 4a^3b + 4ab^3 - b^4 = + 6a^2b^2$
$(17 -13)^4 - 17^4 - 13^4 - [- 52(17)^3 - 68(13^3)] = (?)*221$
Here, a = 17 and b = 13
$\Rightarrow (?) = (6 (17)^2 (13)^2)/221$
$\Rightarrow (?) = (6 \times 289 \times 169)/221$
$\Rightarrow (?) = 1326$

Q.2) Simplify: 127.001 * 7.998 + 6.05 * 4.001

1. 1000

1. 1020
2. 1040
3. 1080
4. None of these

Solution: Using the rounding concept

127 * 8 + 6 * 4

Using the BODMAS rule

1016 + 24

1040 (Option 3)

Q.3) What will come at place of ?: 9876 ÷ 24.96 + 215.005 - ? = 309.99

1. 270
2. 280
3. 290
4. 300
5. 310

Solution: Using the rounding concept

$$9875 ÷ 25 + 215 - ? = 310$$

Using the BODMAS rule

$$395 + 215 - ? = 310$$

$$610 - ? = 310$$

$$? = 300 \text{ (Option 4)}$$

Q.4) What will come at place of a: $(128 ÷ 16 \times a − 7*2)/(7^2-8*6+a^2) = 1$

1. 1
2. 5
3. 9
4. 13
5. 17

Solution: Using the BODMAS rule

$$(8*a − 14)/(49-48+a^2) = 1$$

$$(8*a − 14)/(1 + a^2) = 1$$

$$8a − 14 = 1 + a^2$$

$$a^2 − 8a + 15 = 0$$

$$a=3 \text{ or } 5 \text{ (Option 2)}$$

Q.5) What will come at place of ?: $85.147 + 34.192*6.2 + ? = 802.293$

1. 400
2. 450
3. 550
4. 600

5. 500

Solution: Using the rounding concept

85 + 35*6 + ? = 803

Using the BODMAS rule

85 + 210 + ? = 803

295 + ? = 803

? = 508 [approx. = 500] (Option 5)

Q.6) What will come at place of ? : (3/8 of 168)*15 ÷ 5 + ? = 549 ÷ 9 + 235

(504÷8)*3 + ? = 61 + 235

63*3 + ? = 296

189 + ? = 296

? = 107 (Option 2)

Key Points to Remember while Solving Simplification Question

- Replace 'of' by 'Multiplication'
- Replace '/' by 'Division'
- Always do the operations in priority according to 'BODMAS'
- Division & Multiplication have the same priority (Start from left)
- Addition & Subtraction have the same priority
- Rounding can be done to simplify problems
- When the given options are very close then rounding doesn't help much
- Always look at the options before doing simplification that can help in the elimination of options