

**Módulo 02 . Exercícios**

Lista de exercícios do Módulo 02

Desenvolver as expressões numéricas a seguir:

1)  $2 + 8 - 3 - 5 + 15 =$

MF

R: 17

2)  $12 + [35 - (10 + 2) + 2] =$

MF

R: 37

3)  $[(18 + 3 \cdot 2) \div 8 + 5 \cdot 3] \div 6 =$

MF

R: 3

4)  $37 + [-25 - (-11 + 19 - 4)] =$

MF

R: 8

5)  $60 \div \{2 \cdot [-7 + 18 \div (-3 + 12)]\} - [7 \cdot (-3) - 18 \div (-2) + 1] =$

M

R: 5

6)  $-8 + \{-5 + [(8 - 12) + (13 + 12)] - 10\} =$

F

R: -2

7)  $3 - \{2 + (11 - 15) - [5 + (-3 + 1)] + 8\} =$

F

R: 0

8)  $[-1 + (2^2 - 5 \cdot 6)] \div (-5 + 2) + 1 =$

F

R: 10

9)  $[10 - (2^4 - 8) \cdot 2 - 24] \div [2^2 - (-3 + 2)] =$

M

R: -6

10)  $\{[(8 \cdot 4 + 3) \div 7 + (3 + 15 \div 5) \cdot 3] \cdot 2 - (19 - 7) \div 6\} \cdot 2 + 12 =$

D

R: 100

11)  $2/3 + 3/4 + 5/2 + 1/2 =$

(A) 5/12

(B) 23/12

(C) 25/12

(D) 41/12

(E) 53/12

MF

R: E

12)  $2/3 + 3/4 + 5/2 - 1/2 =$

(A) 5/12

(B) 23/12

(C) 25/12

(D) 41/12

(E) 53/12

MF

R: D

12)  $2/3 - 3/4 + 5/2 - 1/2 =$

(A) 5/12

(B) 23/12

(C) 25/12

(D) 41/12

(E) 53/12

MF

R: B

13)  $2/3 \times 3/4 + 5/2 \times 4/5 =$

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- (A)  $1/2$                       (B)  $3/2$                       (C)  $5/2$                       (D)  $7/2$                       (E)  $9/2$   
MF  
R: C

13)  $2/3 \times 3/4 - 4/5 \times 5 =$

- (A)  $-3,5$                       (B)  $-4,5$                       (C)  $-5,5$                       (D)  $-6,5$                       (E)  $-7,5$   
MF  
R: A

Transformar em números decimais

14)  $1/2 + 1/3 =$

- (A) 0,5                      (B) 0,6                      (C) 0,83                      (D) 0,833                      (E) 0,8333...  
MF  
R: E

15)  $2/5 + 3/4 - 3/10 =$

- (A) 0,5                      (B) 0,6                      (C) 0,85                      (D) 0,855                      (E) 0,8555...  
MF  
R: C

16)  $2/3 - 4/5 - 2/9 + 7/12 =$

- (A) 0,2                      (B) 0,22                      (C) 0,227                      (D) 0,2277                      (E) 0,22777...  
F  
R: E

Transformar em frações

17)  $0,5 =$

- (A)  $1/8$                       (B)  $1/4$                       (C)  $1/2$                       (D)  $2/3$                       (E)  $3/4$   
MF  
R: C

18)  $0,75 =$

- (A)  $1/8$                       (B)  $1/4$                       (C)  $1/2$                       (D)  $2/3$                       (E)  $3/4$   
MF  
R: E

19)  $2,625 =$

- (A)  $19/8$                       (B)  $20/8$                       (C)  $21/8$                       (D)  $22/8$                       (E)  $23/8$   
F  
R: C

20)  $0,333333... =$

- (A)  $1/3$                       (B)  $1/4$                       (C)  $1/6$                       (D)  $2/5$                       (E)  $2/3$   
F  
R: A

21)  $5,252525... =$

- (A)  $510/90$                       (B)  $510/99$                       (C)  $520/90$                       (D)  $520/99$                       (E)  $525/100$   
M  
R: D

22)  $5,0153333... =$

- (A)  $15044/3000$                       (B)  $15046/3000$                       (C)  $15047/3000$                       (D)  $15048/3000$                       (E)  $15049/3000$   
M  
R: B

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23)  $4,25125125125... =$

- (A) 4241/990      (B) 4243/990      (C) 4243/999      (D) 4247/990      (E) 4247/999
- D
- R: E

Usando V ou F, diga se a igualdade é verdadeira ou falsa:

24)  $5^{-6} \times 5^6 \times 5^2 = 5^3$       [    ]

F

R: F

25)  $5^{-6} \times 5^6 = 1$       [    ]

MF

R: V

26)  $4^3 \div 4^5 = 4^{-5} \times 4^3$       [    ]

F

R: V

27)  $3^6 \times 4^6 = 12^6$       [    ]

MF

R: V

28)  $3^5 \times 4^5 = 12^{10}$       [    ]

MF

R: F

29)  $3^7 \times 9^7 = 12^7$       [    ]

MF

R: F

30)  $7^2 + 7^3 = 7^5$       [    ]

F

R: F

31)  $(3 + 4)^7 = 3^7 + 4^7$       [    ]

F

R: F

32)  $\frac{1}{3^4 + 5^4} = 3^{-4} + 5^{-4}$       [    ]

D

R: F

33) (FUVEST) A metade de  $2^{100}$  é:

- (A)  $2^{50}$       (B)  $1^{100}$       (C)  $2^{99}$       (D)  $2^{51}$       (E)  $1^{50}$
- D
- R: C

34) (CEFET – BA) O valor da expressão  $6^6 + 6^6 + 6^6 + 6^6 + 6^6 + 6^6$  é:

- (A)  $6^6$       (B)  $6^7$       (C)  $7^6$       (D)  $6^{36}$       (E)  $36^6$
- D
- R: B

35) (VUNESP) O valor da expressão  $5^{-1} - 2^{-1}$  é:

- (A) 0      (B) 0,2      (C) -0,2      (D) 0,3      (E) -0,3
- D
- R: E

36) (FUVEST) Qual desses números é igual a 0,064?

- (A)  $(1/80)^2$       (B)  $(1/8)^2$       (C)  $(2/5)^3$       (D)  $(1/800)^2$       (E)  $(8/10)^3$

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D

R: C

37) (FUVEST)  $\frac{\sqrt{2}+\sqrt{3}}{\sqrt{3}} =$

- (A)  $\frac{5+\sqrt{6}}{3}$  (B)  $\frac{2+\sqrt{6}}{6}$  (C)  $\frac{3+\sqrt{6}}{3}$  (D)  $\frac{3+\sqrt{6}}{6}$  (E)  $\frac{5+2\sqrt{6}}{3}$

D

R: C

38)  $\frac{1}{1+\sqrt{2}} =$

- (A)  $\sqrt{2}$  (B)  $\sqrt{2} + 1$  (C)  $\sqrt{2} - 1$  (D)  $\frac{\sqrt{2} - 1}{2}$  (E)  $\frac{\sqrt{2} + 1}{2}$

M

R: C

39)  $\frac{1}{\sqrt{2}+\sqrt{3}} =$

- (A)  $\sqrt{3} + \sqrt{2}$  (B)  $\sqrt{3} - \sqrt{2}$  (C)  $3 + \sqrt{2}$  (D)  $3 - \sqrt{2}$  (E)  $2 + \sqrt{3}$

M

R: B

40)  $\frac{2}{\sqrt{5}+\sqrt{3}} =$

- (A)  $\sqrt{3} + \sqrt{5}$  (B)  $\sqrt{5} - \sqrt{3}$  (C)  $6 + 2\sqrt{5}$  (D)  $6 - 2\sqrt{5}$  (E)  $\sqrt{20} - \sqrt{12}$

D

R: E

41)  $\frac{2}{\sqrt{3}} =$

- (A)  $\frac{2\sqrt{3}}{3}$  (B)  $\frac{2+\sqrt{6}}{6}$  (C)  $\frac{3\sqrt{6}}{2}$  (D)  $\frac{\sqrt{6}}{6}$  (E)  $\frac{2\sqrt{6}}{3}$

F

R: A

42)  $\sqrt[4]{2^3} =$

- (A)  $4^{3/4}$  (B)  $8^{3/4}$  (C)  $2^{1/4}$  (D)  $8^{1/4}$  (E)  $4^{1/4}$

M

R: D

43)  $12\sqrt{10} + 6\sqrt{10} - 8\sqrt{10} - 6\sqrt{10} =$

- (A)  $4\sqrt{10}$  (B)  $6\sqrt{10}$  (C)  $8\sqrt{10}$  (D)  $10\sqrt{10}$  (E)  $12\sqrt{10}$

F

R: A

45)  $\frac{\sqrt{10}}{6} + \frac{\sqrt{10}}{2} - \frac{\sqrt{10}}{5} - \frac{\sqrt{10}}{3} =$

- (A)  $4\sqrt{10}$  (B)  $6\sqrt{10}$  (C)  $8\sqrt{10}$  (D)  $10\sqrt{10}$  (E)  $12\sqrt{10}$

M

R: A

44)  $5\sqrt{28} - 3\sqrt{20} - 2\sqrt{63} + 2\sqrt{45} =$

- (A)  $3\sqrt{7}$  (B)  $4\sqrt{7}$  (C)  $5\sqrt{7}$  (D)  $4\sqrt{5}$  (E)  $6\sqrt{5}$

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M

R: B

44)  $8\sqrt{2} - 5\sqrt{8} + 13\sqrt{18} - 15\sqrt{50} - 9\sqrt{72} =$

- (A)  $38\sqrt{2}$       (B)  $-54\sqrt{2}$       (C)  $54\sqrt{2}$       (D)  $-92\sqrt{2}$       (E)  $92\sqrt{2}$

D

R: D

44)  $5\sqrt{28} - 3\sqrt{20} - 2\sqrt{63} + 2\sqrt{45} =$

- (A)  $3\sqrt{7}$       (B)  $4\sqrt{7}$       (C)  $5\sqrt{7}$       (D)  $4\sqrt{5}$       (E)  $6\sqrt{5}$

M

R: B

45)  $\frac{7}{3\sqrt{21}} =$

- (A)  $\frac{\sqrt{21}}{9}$       (B)  $\frac{2\sqrt{21}}{6}$       (C)  $\frac{3\sqrt{21}}{7}$       (D)  $\frac{\sqrt{21}}{7}$       (E)  $\frac{7\sqrt{21}}{9}$

F

R: A

46)  $\frac{6+\sqrt{(3)}}{\sqrt{3}} =$

- (A)  $\frac{\sqrt{21}}{9}$       (B)  $2\sqrt{3}+1$       (C)  $\frac{3\sqrt{21}}{7}$       (D)  $\frac{\sqrt{21}}{7}$       (E)  $\frac{7\sqrt{21}}{9}$

M

R: B

47) (CESGRANRIO) O número de algarismos do produto  $5^{17} \times 4^9$  é igual a:

- (A) 17      (B) 18      (C) 19      (D) 20      (E) 21

D

R: B

48) (CPCAR) O número de algarismos do produto  $8^{0,666...} - 9^{0,5}$  é igual a:

- (A) -2      (B) -1      (C) 2      (D) 1      (E) 3

D

R: D

49) (FGV) Se  $x = 3200000$  e  $y = 0,00002$ ,  $xy$  vale:

- (A) 0,64      (B) 6,4      (C) 64      (D) 640      (E) 6400

D

R: C

50) (CPCAR)  $8^{34} \div 4^{50}$  é igual a:

- (A) 1      (B) 2      (C) 3      (D) 4      (E) 5

M

R: D

51) (CPCAR)  $(2^{99} - 32^{20} + 2^{101}) \div 8^{33}$  é igual a:

- (A) 1      (B) 2      (C) 3      (D) 4      (E) 5

M

R: C

52) (OBM) Qual dos números a seguir é o maior?

- (A)  $3^{45}$       (B)  $9^{20}$       (C)  $27^{14}$       (D)  $243^9$       (E)  $81^{12}$

M

R: E

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53)  $\frac{2}{3} + (\frac{5}{2} - \frac{4}{3}) \times \frac{8}{6} - [\frac{3}{2} \times (\frac{2}{5} - \frac{5}{2})] \times 2$  é igual a:

- (A) 289/30                      (B) 298/30                      (C) 829/30                      (D) 892/30                      (E) 982/30  
M  
R: A

54)  $\frac{4}{3} \times [30 \div [\frac{12}{7} \times (\frac{3}{4} - \frac{4}{3})] + \frac{3}{5} \times \frac{5}{4}] - 2$  é igual a:

- (A) - 40                      (B) 40                      (C) - 41                      (D) 41                      (E) - 42  
M  
R: C

55)  $\frac{2}{5} + \frac{1}{4} - [\frac{5}{3} \times \frac{4}{5} + \frac{1}{10} - (20 \div 6 + \frac{10}{3})] - \frac{4}{5} \times 3 + 2 \times \frac{5}{3}$  é igual a:

- (A) - 409/60                      (B) 409/60                      (C) - 410/60                      (D) 410/60                      (E) - 420/60  
M  
R: B

56)  $\frac{1}{2} \times \frac{1}{3} + \frac{2}{3}$  é igual a:

- (A) 1/2                      (B) 1/3                      (C) 2/3                      (D) 1/6                      (E) 5/6  
F  
R: E

57) O valor de x que é solução, nos números reais, da equação  $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \frac{x}{48}$  é igual a:

- (A) 36                      (B) 44                      (C) 52                      (D) 60                      (E) 68  
F  
R: C

58) O valor de x que é solução, nos números reais, da equação  $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} = \frac{x}{60}$  é igual a:

- (A) 36                      (B) 44                      (C) 52                      (D) 62                      (E) 77  
F  
R: E

59) O valor de x que é solução, nos números reais, da equação  $\frac{1}{2} + \frac{1}{3} = \frac{x}{54}$  é igual a:

- (A) 36                      (B) 45                      (C) 52                      (D) 54                      (E) 60  
MF  
R: B

60) O valor de x que é solução, nos números reais, da equação  $\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} = \frac{x}{60}$  é igual a:

- (A) 12                      (B) 24                      (C) 36                      (D) 48                      (E) 60  
F  
R: A

Deverão ser entregues os exercícios 1 – 3 – 5 – 7 – 9 – 11 – 13 – 15 – 17 – 19 – 21 – 23 – 25 – 27 – 29 – 31 – 33 – 35 – 37 – 39 – 41 – 43 – 45 – 47 – 49 – 51 – 53 – 55 – 57 – 59