

nívelando resolução

= expressões numéricas \Rightarrow

01. $(-3)^2 \cdot [-9 + (-3)^3] : (-3)^2 =$
 $= 9 \cdot [-9 + (-27)] : 9 =$
 $= 9 \cdot [-9 - 27] : 9 =$
 $= 9 \cdot [-36] : 9 =$
 $= -324 : 9 =$
 $= -36$

A

02. $-1 + 6 \cdot (7 - 4 : 2) =$
 $= -1 + 6 \cdot (7 - 2) =$
 $= -1 + 6 \cdot 5 =$
 $= -1 + 30 =$
 $= 29$

03. $[(64 - 16 \cdot 4) + (48 \cdot 10 - 180)] \cdot 5 =$
 $= [(64 - 64) + (480 - 180)] \cdot 5 =$
 $= [0 + 300] \cdot 5 =$
 $= 1500$
 $\frac{1}{5} \cdot 1500 = 300$

B

04. a) $7^2 - 6 : 2 + \sqrt{16} =$
 $= 49 - 6 : 2 + 4 =$
 $= 49 - 3 + 4 =$
 $= 49 + 1 =$
 $= 50$

b) $6 + 20 - 12 \cdot 2 =$
 $= 6 + 20 - 24 =$
 $= 26 - 24 =$
 $= 2$

c) $3 \cdot 8 - \sqrt{25} + 3^3 =$
 $= 3 \cdot 8 - 5 + 27 =$
 $= 24 - 5 + 27 =$
 $= 19 + 27 =$
 $= 46$

$$\begin{aligned}
 d) & [(18 + 3 \cdot 2) : 8 + 5 \cdot 3] : 6 = \\
 & = [(18 + 6) : 8 + 5 \cdot 3] : 6 = \\
 & = [24 : 8 + 5 \cdot 3] : 6 = \\
 & = [3 + 15] : 6 = \\
 & = 18 : 6 = \\
 & = \mathbf{3}
 \end{aligned}$$

$$\begin{aligned}
 05. \ a) & 900 - 4 \cdot 2 \cdot (3 + 5) = \\
 & = 900 - 4 \cdot 2 \cdot 8 = \\
 & = 900 - 64 = \\
 & = \mathbf{836}
 \end{aligned}$$

$$\begin{aligned}
 b) & 2^4 + [2^5 \cdot (2^3 - 2^2)] = \\
 & = 16 + [32 \cdot (8 - 4)] = \\
 & = 16 + [32 \cdot 4] = \\
 & = 16 + 128 = \\
 & = \mathbf{144}
 \end{aligned}$$

$$\begin{aligned}
 c) & 1440 : \{30 \cdot [20 + (49 - 35) \cdot 2]\} = \\
 & = 1440 : \{30 \cdot [20 + 14 \cdot 2]\} = \\
 & = 1440 : \{30 \cdot [20 + 28]\} = \\
 & = 1440 : \{30 \cdot 48\} = \\
 & = 1440 : 1440 = \\
 & = \mathbf{1}
 \end{aligned}$$

$$\begin{aligned}
 06. \ a) & (8 : 2) \cdot 4 + \{[(3^2 - 2^3) \cdot 2^4 - 5^0] \cdot 4^1\} = \\
 & = 4 \cdot 4 + \{[(9 - 8) \cdot 16 - 1] \cdot 4\} = \\
 & = 4 \cdot 4 + \{[1 \cdot 16 - 1] \cdot 4\} = \\
 & = 4 \cdot 4 + \{[16 - 1] \cdot 4\} = \\
 & = 4 \cdot 4 + \{15 \cdot 4\} = \\
 & = 4 \cdot 4 + \{60\} = \\
 & = 16 + 60 = \\
 & = \mathbf{76}
 \end{aligned}$$

$$\begin{aligned}
 b) & (3^2 - 2^3) \cdot 3^3 - 2^3 + 2^2 \cdot 4^2 = \\
 & = (9 - 8) \cdot 27 - 8 + 4 \cdot 16 =
 \end{aligned}$$

$$= 1 \cdot 27 - 8 + 4 \cdot 16 =$$

$$= 27 - 8 + 64 =$$

$$= 83$$

$$c) (2^5 - 3^3) \cdot (2^2 - 2) =$$

$$= (32 - 27) \cdot (4 - 2) =$$

$$= 5 \cdot 2 =$$

$$= 10$$

$$d) [2 \cdot (10 - 4^2 : 2) + 6^2] : (2^3 - 2^2) =$$

$$= [2 \cdot (10 - 16 : 2) + 36] : (8 - 4) =$$

$$= [2 \cdot (10 - 8) + 36] : 4 =$$

$$= [2 \cdot 2 + 36] : 4 =$$

$$= [4 + 36] : 4 =$$

$$= 40 : 4 =$$

$$= 10$$

$$e) (18 - 4 \cdot 2) \cdot 3 + 2^4 \cdot 3 - 3^2 \cdot (5 - 2) =$$

$$= (18 - 8) \cdot 3 + 16 \cdot 3 - 9 \cdot (3) =$$

$$= 10 \cdot 3 + 16 \cdot 3 - 9 \cdot 3 =$$

$$= 30 + 48 - 27 =$$

$$= 51$$

$$f) 4^2 \cdot [2^4 : (10 - 2 + 8) + 2^0]$$

$$= 16 \cdot [16 : (16)] + 1 =$$

$$= 16 \cdot 1 + 1 =$$

$$= 16 + 1 =$$

$$= 17$$

$$g) [(4^2 + 2 \cdot 3^2) + (16 : 8)^2 - 35]^2 + 1^{10} - 10^0$$

$$= [(16 + 2 \cdot 9) + (2)^2 - 35]^2 + 1 - 1 =$$

$$= [(16 + 18) + 4 - 35]^2 + 1 - 1 =$$

$$\begin{aligned}
 &= [(16 + 18) + 4 - 35]^2 + 1 - 1 = \\
 &= [34 + 4 - 35]^2 + 1 - 1 = \\
 &= 3^2 + 1 - 1 = \\
 &= 9 + 1 - 1 = \\
 &= 9
 \end{aligned}$$

$$\begin{aligned}
 \text{h)} & 13 + (10 - 8 + (7 - 4)) = \\
 &= 13 + (2 + 3) = \\
 &= 13 + 5 = \\
 &= 18
 \end{aligned}$$

$$\begin{aligned}
 \text{i)} & (10 \cdot 4 + 18 - (2 \cdot 3 + 6)) = \\
 &= (40 + 18 - (6 + 6)) = \\
 &= (40 + 18 - 12) = \\
 &= 46
 \end{aligned}$$

$$\begin{aligned}
 \text{j)} & 7 \cdot (74 - (4 + 7 \cdot 10)) = \\
 &= 7 \cdot (74 - (4 + 70)) = \\
 &= 7 \cdot (74 - 74) = \\
 &= 7 \cdot 0 = \\
 &= 0
 \end{aligned}$$

$$\begin{aligned}
 \text{k)} & (19 : (5 + 3 \cdot 8 - 10)) = \\
 &= (19 : (5 + 24 - 10)) = \\
 &= (19 : (19)) = \\
 &= 19 : 19 = \\
 &= 1
 \end{aligned}$$

$$\begin{aligned}
 \text{l)} & ((2^3 + 2^4) \cdot 3 - 4) + 3^2 = \\
 &= ((8 + 16) \cdot 3 - 4) + 9 = \\
 &= (24 \cdot 3 - 4) + 9 = \\
 &= (72 - 4) + 9 =
 \end{aligned}$$

$$: 68 + 9 =$$

$$: 77$$

$$m) 3 + 2 \cdot ((3^2 - 2^0) + (5 - 4)) + 1 =$$

$$= 3 + 2 \cdot ((9 - 1) + (1)) + 1$$

$$= 3 + 2 \cdot (8 + 1) + 1 =$$

$$= 3 + 2 \cdot 9 + 1 =$$

$$= 3 + 18 + 1 =$$

$$= 22$$

07. $3,5 \text{ kg} \rightarrow 3500 \text{ g}$

$1,25 \text{ kg} \rightarrow 1250 \text{ g}$

C

$$(3500 + 1250) : 6$$

\hookrightarrow meia dúzia de formos

08. $A \rightarrow 23 \cdot 15 + 10 \cdot 1 =$

$$= 345 + 10 =$$

$$= 355$$

$$B \rightarrow 21,50 \cdot 15 + 12 \cdot 3 =$$

$$= 322,5 + 36 =$$

$$= 358,5$$

$$C \rightarrow 22 \cdot 15 + 14 \cdot 15 =$$

$$= 330 + 210 =$$

$$= 351$$

$$D \rightarrow 21 \cdot 15 + 3,5 \cdot 18 =$$

$$= 315 + 63 =$$

$$= 378$$

E $\rightarrow 24 \cdot 15 + 2,5 \cdot 2 =$

$$= 360 + 5 =$$

$$= 365$$

C

09. 2º TIPO

$$500 \cdot 0,65 + 500 \cdot 0,6 + 500 \cdot 0,2 =$$

$$= 325 + 300 + 100 =$$

1º TIPO

$$1000 - 725 = 275$$

$$275 : 0,65 = 27500 \approx 423$$

$$275 : 0,65$$

$$= 725$$

$$0,65$$

$$60$$

$$500 + 423 = 923$$

(C)

10. I. $72 : 8 : (3 \cdot 1) + 2 =$
 $= 72 : 8 : 3 + 2 =$
 $= 9 : 3 + 2 =$
 $= 3 + 2 =$
 $= 5$

II. $76 - 2 \cdot [100 : (3 \cdot 6 - 8) + 10] =$
 $= 76 - 2 \cdot [100 : (18 - 8) + 10] =$
 $= 76 - 2 \cdot [100 : 10 + 10] =$
 $= 76 - 2 \cdot [10 + 10] =$
 $= 76 - 2 \cdot 20 =$
 $= 76 - 40 =$
 $= 36$

III. $9 \cdot (10 + 2) =$
 $= 9 \cdot 12 =$
 $= 108$

(C)

11. $26,4 \text{ m}^3 \rightarrow 26,4 \cdot 1000 \text{ l}$

$$26,4 \cdot 1000 \text{ l} \rightarrow 1 \text{ h}$$

$$x \longrightarrow 60 \text{ min (1 min)}$$

$$x = 26,4 \cdot 1000 \cdot 60$$

(E)

12. $\sqrt{24 + (3^2 \cdot 2^3)} + \sqrt[3]{27} - [(12 - 4^2) + 4]$
 $\sqrt{24 + (9 \cdot 8)} + 3 - [(12 - 16) + 4] =$
 $= \sqrt{24 + 72} + 3 - [-4 + 4] =$
 $= \sqrt{96} + 3 - 0 =$
 $= 8 + 3 =$
 $= 11$

(D)

13. $5 \cdot 5 + 1 \cdot 2 =$

$$= 25 + 2 =$$

(F)

= 27

1

14. I. $\left[2 \cdot \left(\frac{-1}{\cancel{4}} \right) : \frac{-1}{\cancel{2}} \right] =$
 $= -1 : -1 =$
 $= 1$

II. $(+2 - 1 + 4) : (-2 + 3) =$
 $= 5 : 1 =$
 $= 5$

III. $(+4 - 9) : (-5 + 3) =$
 $= -5 : -2 =$
 $= 2,5$

IV. $(2 - 3 + 1) : (-4) =$
 $= 0 : -4 =$
 $= 0$

C

15. $\{(10 \cdot 10 + 4 \cdot 11) : 12 - [(20 + 19 \cdot 10) : 39 + 15]\} + 50 =$
 $= \{(100 + 44) : 12 - [(20 + 190) : 39 + 15]\} + 50 =$
 $= \{144 : 12 - [210 : 39 + 15]\} + 50 =$
 $= \{12 - [5,38 + 15]\} + 50 =$
 $= \{12 - 20,38\} + 50 =$
 $= -8,38 + 50 =$
 $= 41,62$

D