

taller conocimientos previos

7. Determine el valor de las siguientes expresiones:

$$a) 4 + 2 * 5 = 14$$

$$b) 23 * 2 / 5 = 46 / 5 = 9.2$$

$$c) 6 + 2 * 3 - 4 / 2 = 6 + 6 - 4 / 2 = 12 - 2 = 10$$

$$d) 5 * 5 (5 + (6 - 2) + 7) = 25 (5 + 4 + 7) = 250$$

$$e) 7 - 6 / 3 + 2 * 3 / 2 - 4 / 2 * 2 =$$

$$= 7 - 2 + 6 / 2 - 4 / 4$$

$$= 7 - 2 + 3 - 1$$

$$= 7$$

$$f) 5 \% 2 = \frac{5 \cancel{2}}{\cancel{4} \cancel{2}} = 1$$

$$g) 45 / 5 \% 2 = 9 \% 2 = \frac{9 \cancel{2}}{\cancel{7} \cancel{4}} = 1$$

$$\begin{aligned} h &= 3 + 5 * (70 - (2 + 4)) = 3 + 5 * (70 - 6) \\ &= 3 + 5 * 4 \\ &= 23 \end{aligned}$$

$$i) 3 + 5 * (-10 - 6) = 3 + 5 * (+16) = 3 + 80 = 83$$

$$j) 3.5 + 5.09 - 74.0 / 40 = \begin{array}{r} 5.09 \\ + 3.5 \\ \hline 8.59 \end{array}$$

$$= 8.59 - 0.35$$

$$= 8.24$$

$$k) 3.5 + 5.09 - 3.5 + 8.59 - 3.5 = 8.59 - 3.5 + 8.59 - 3.5$$

$$= 5.09 + 8.59 - 3.5$$

$$= ~~8.09~~ 13.63 - 3.5$$

$$= 10.13$$

$$l) 2.7 * (1.5 + 3.0 * 4.7)$$

$$= 2.7 * (1.5 + 14.1)$$

$$= 2.7 * 15.6$$

$$= 42.12$$

$$m) 2.7 * (1.5 - 72.3)$$

$$= 2.7 * (-70.8)$$

$$= -191.16$$

$$\begin{aligned}
 n) & (5-3 \cdot (4-2)) + 3 \cdot 2 \\
 & = (5-3 \cdot 2) + 6 \\
 & \quad \frac{3 \cdot 2}{7} \\
 & = (5-7) + 6 \\
 & = 4 + 6 = 10
 \end{aligned}$$

$$\begin{aligned}
 o) & 7 \cdot 4 - 2 + 5 - (2 + 2 \cdot 5) \cdot 2 - 3 \\
 & = 7 \cdot 4 - 2 + 5 - (72) \cdot 2 - 3 \\
 & = 28 - 2 + 5 - 72 \cdot 2 - 3 \\
 & = 28 - 2 + 5 - 24 - 3 \\
 & = 4
 \end{aligned}$$

$$\begin{aligned}
 p) & 8 + 7 \cdot 3 + 4 \cdot 6 \\
 & = 8 + 27 + 24 \\
 & = 53
 \end{aligned}$$

$$q) -2 \wedge 3 = -8$$

$$\begin{aligned}
 r) & (33 + 3 \cdot 4) / 5 \\
 & = 45 / 5 \\
 & = 9
 \end{aligned}$$

$$s) 2A2^*3 = 12$$

$$\begin{aligned} t) 3+2^*(-78-4A2) \\ = 3+2^*(-78-76) \\ = 3+2^*2 \\ = 7 \end{aligned}$$

$$\begin{aligned} b) 76^*76-3^*2 \\ = 256-6 \\ = 250 \end{aligned}$$

$$\begin{aligned} v) 5/2+20 \bmod 6 \\ = ~~12~~ \quad \begin{array}{r} 20 \\ 2 \overline{) 6} \\ 2 \end{array} \\ = 4,5 \end{aligned}$$

$$\begin{aligned} w) 4 \times 6 / 2 - 75 / 2 \\ = 24 / 2 - 75 / 2 \\ = 72 - 7,5 \\ = 4,5 \end{aligned}$$

$$\begin{aligned}
 X) & 5 * 75 / 2 / (4 - 2) \\
 & = 5 * 75 / 2 / 2 \\
 & = 75 / 2 / 2 \\
 & = 37,5 / 2 = 18,75
 \end{aligned}$$

2. Responda para cada expresión si es falso (F) o verdadero (V)

$$\text{Si } a = 70 \quad b = 20 \quad c = 30$$

$$a) a + b > c = V$$

$$b) a - b < c = V$$

$$c) a - b = c = F$$

$$d) a * b \neq c = V$$

$$\begin{aligned}
 e) & a * c - b * a < b * c = F \\
 & = 70 * 30 - 20 * 70 < 20 * 30 \\
 & = 2100 - 1400 < 600 \\
 & = 700 < 600
 \end{aligned}$$

$$f) c * a - b < a + b + c = f$$

$$= 30 * 10 - 20 < 10 + 20 + 30$$

$$= 300 - 20 < 60$$

$$= 280 < 60$$

$$g) b + (z - a) / 5 < a * c * z = f$$

$$= 20 + (-7) / 5 < 10 * 30 * 2$$

$$= 20 - 7 / 5 < 600$$

$$= 20 - 1,4 < 600$$

$$= 18,6 < 600$$

$$h) 8 = 16 \vee 7 \neq 4 \vee 4 < 7 = f$$

$$i) (4 * 3 < 6 \vee 3 > 5 - 2) \vee 3 + 2 < 12 = f$$

$$= (12 < 6 \vee 3 > 3) \vee 5 < 12$$

3. Reducir el valor de las siguientes expresiones:

Si $A=5$; $B=25$; $C=70$

$$- X \leftarrow A + B + C$$

$$40 \leftarrow 5 + 25 + 70$$

$$- X \leftarrow A + B * C$$

$$\leftarrow 5 + 25 * 70$$

$$255 \leftarrow 255$$

$$- X \leftarrow A + B / C$$

$$\leftarrow 5 + 25 / 70$$

$$\leftarrow 5 + 2,5$$

$$7,5 \leftarrow 7,5$$

$$- X \leftarrow A + B \setminus C$$

$$\leftarrow 5 + 25 / 70$$

$$\leftarrow 5 + 2,5$$

$$7,5 \leftarrow 7,5$$

$$- X \leftarrow A + B \bmod C$$

$$\leftarrow 5 + 25 \bmod 70$$

$$\leftarrow 5 + 5$$

$$10 \leftarrow 10$$

$$\begin{array}{r} 25/70 \\ 5 \ 2 \end{array}$$

$$\begin{aligned}
 - X &\leftarrow (a+b) \setminus c \\
 &\leftarrow (5+25)/10 \\
 &\leftarrow 30/10 \\
 3 &\leftarrow 3
 \end{aligned}$$

$$\begin{aligned}
 - X &\leftarrow A \# b / c \\
 X &\leftarrow 5 + (25/10) \\
 X &\leftarrow 5 + 2,5 \\
 7,5 &\leftarrow 7,5
 \end{aligned}$$

4. ¿Que se obtiene en las variables A y B, después de la ejecución de las siguientes instrucciones?

$$A = 5$$

$$B = 5 + 6 = 11 = B = 11$$

$$A = 5 + 1 = 6 = A = 5 \quad A = 6$$

$$B = 5 - 5 = 0 = B = 11 \quad B = 0$$

5. encuentra el valor final de las variables A y B

$$A = 3$$

$$B = 5$$

$$A = B + 3 = \cancel{A=3} A = 5 + 3 = A = 8$$

$$B = A * 2 = B = 3 * 2 = B = 6$$

$$B = B - 2 = B = 5 - 2 = B = 3$$

$$A = B * 3 = A = 5 * 3 = A = 15$$

$$A = A + B = A = 3 + 5 = A = 8$$

$$A = 31$$

$$B = 9$$

6. Reducir el valor de las siguientes expresiones donde $a=8$, $b=3$, $c=-5$

$$\begin{aligned} a) & a + b + c \\ & = 8 + 3 + (-5) \\ & = 11 - 5 \\ & = 6 \end{aligned}$$

$$\begin{aligned}
 b) & 2 * 6 + 3 * (0 - 5) \\
 & = 2 * 3 + 3 * (8 - 5) \\
 & = 6 + 3 * 3 \\
 & = 6 + 9 = 15
 \end{aligned}$$

$$\begin{aligned}
 c) & a / b \\
 & = 8 / 3 = 2.6
 \end{aligned}$$

$$\begin{aligned}
 d) & a \bmod b \\
 & 8 / 3 = \frac{8}{3} = 2 \text{ remainder } 2
 \end{aligned}$$

$$\begin{aligned}
 e) & a / c \\
 & = 8 / -5 = -1.6
 \end{aligned}$$

$$\begin{aligned}
 f) & a \bmod c \\
 & = 8 \bmod -5 = -3 \\
 & = \frac{8}{-5} = 3 \text{ remainder } -7
 \end{aligned}$$

$$\begin{aligned}
 g) & a * b / c \\
 & 8 * 3 / -5 \\
 & = 24 / -5 = -4.8
 \end{aligned}$$

$$\begin{aligned}
 h) a * (b / c) \\
 &= 8 * (3 / 5) \\
 &= 8 * -0,6 \\
 &= -4,8
 \end{aligned}$$

$$\begin{aligned}
 i) (a * c) \bmod b \\
 &= (8 * -5) \bmod 3 \\
 &= -40 \bmod 3 = \frac{40}{3} \text{ con resto } 1 = 1
 \end{aligned}$$

$$\begin{aligned}
 j) a * (c \bmod b) \\
 &= 8 * (-5 \bmod 3) = \frac{5}{3} \text{ con resto } 2 = 2 \\
 &= 8 * (2) \\
 &= 16
 \end{aligned}$$

7. Calcular el valor de la variable:

$$\begin{aligned}
 a. \text{ valor} &\leftarrow 4,0 * 5 \\
 &= 20 \leftarrow 4,0 * 5
 \end{aligned}$$

$$\begin{aligned}
 b. X &= 3,0 \\
 Y &= 2,0
 \end{aligned}$$

$$\begin{aligned}
 \text{valor} &\leftarrow X \wedge Y - Y \\
 &= \text{valor} \leftarrow 3,0 \wedge 2,0 - 2,0 \\
 &= \leftarrow 9,0 - 2,0 = 7,0
 \end{aligned}$$

C) $\text{Valor} \leftarrow 5$

$X \leftarrow 3$

$\text{Valor} \leftarrow \text{Valor} * X$

$= 5 * 3$

$= 15$

8. reducir valor de a y b después de las siguientes instrucciones

a) $a \leftarrow 4$

$b \leftarrow a$

$b \leftarrow a + 3$

$b \leftarrow 4 + 3$

$b \leftarrow 7$

b) $a \leftarrow 5$

$b \leftarrow a + 6 = 5 + 6 = 11$

$a \leftarrow a + 1 = 5 + 1 = 6$

$b \leftarrow a - 5 = 6 - 5 = 1$

$= b = 1$

$= a = 6$

c) $a \leftarrow 3$

$b \leftarrow 20$

$c \leftarrow a + b = 3 + 20 = 23$

$b \leftarrow a + b = 3 + 20 = 23$

$a \leftarrow b - c = 23 - 23 = 0$

$a = 0 \quad b = 23$

d) $a \leftarrow 10$

$b \leftarrow 5$

$a \leftarrow b = 5 \leftarrow 10$

$b \leftarrow a = 5 \leftarrow 10$