

$$\begin{aligned}(100j^3)^4 &= 100^4 j^{3 \cdot 4} \\&= 100 \cdot 100 \cdot 100 \cdot 100 j^{12} \\&= 100.000.000 j^{12}\end{aligned}$$

$$\begin{aligned}(-2j^{3^2})^2 &= (-2j^9)^2 = (-2)^2 j^{9 \cdot 2} \\&= 4 j^{18}\end{aligned}$$

$$3^2 = 3 \cdot 3 = 9$$

$$(-2)^2 = (-2) \cdot (-2) = 2 \cdot 2 = 4$$

$$(-3\theta^2)^3 = (-3\theta^2)^9 = (-3)^9 \theta^{2 \cdot 9}$$

$$(9 = \mu\text{o}\nu\text{o}\varsigma \text{ \textit{ap}\theta\mu\acute{o}\varsigma}) = -3^9 \theta^{18}$$

$$= -19683 \theta^{18}$$


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$$(2^4 y^4)^2 \cdot (-3^2 y^{20})^2 =$$

$$= (16 y^4)^2 \cdot (-9 y^{20})^2$$

$$= (16^2 y^{4 \cdot 2}) \cdot ((-9)^2 y^{20 \cdot 2})$$

$$= (256 y^8) \cdot (81 y^{40})$$

$$= 256 \cdot 81 y^{8+40} = 20736 y^{48}$$

$$2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$$

$$3^2 = 9$$

$$\begin{aligned}
& 2f \cdot (2f)^2 \cdot (2f)^3 \cdot (2f)^4 \\
&= 2f \cdot 2^2 f^{1 \cdot 2} \cdot 2^3 f^{1 \cdot 3} \cdot 2^4 f^{1 \cdot 4} \\
&= 2f \cdot 4f^2 \cdot 8f^3 \cdot 16f^4 \\
&= 2 \cdot 4 \cdot 8 \cdot 16 f^{1+2+3+4} \\
&= 64 \cdot 16 f^{10} \\
&= 1024 f^{10}
\end{aligned}$$

$$\begin{aligned}
2^2 &= 4 \\
2^3 &= 8 \\
2^4 &= 16
\end{aligned}$$

$$\begin{aligned}
 & (\theta^2)^3 \cdot 3\theta \cdot (-\theta) \cdot (\theta^5)^4 \\
 &= (1\theta^2)^3 \cdot 3\theta \cdot (-1\theta) \cdot (1\theta^5)^4 \\
 &= 1^3 \theta^{2 \cdot 3} \cdot 3\theta \cdot (-1\theta) \cdot 1^4 \theta^{5 \cdot 4} \\
 &\textcircled{*} = 1\theta^6 \cdot 3\theta \cdot (-1\theta) \cdot 1\theta^{20} \\
 &= 1 \cdot 3 \cdot (-1) \cdot 1 \theta^{6+1+1+20} \\
 &= -3\theta^{28}
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{*} \quad & 1^3 = 1 \cdot 1 \cdot 1 = 1 \\
 & 1^4 = 1 \cdot 1 \cdot 1 \cdot 1 = 1
 \end{aligned}$$

$$(2\theta^2)^3 \cdot (3\theta^5)^2 =$$

$$= (2^3 \theta^{2 \cdot 3}) \cdot (3^2 \theta^{5 \cdot 2})$$

$$= (8 \theta^6) \cdot (9 \theta^{10})$$

$$= 8 \cdot 9 \theta^{6+10}$$

$$= 72 \theta^{16}$$

$$\left((2^2)^2\right)^2$$

1st solution

$$\left((2^2)^2\right)^2 = \left((4)^2\right)^2 = (16)^2 = 256$$

2nd solution

$$\begin{aligned}\left((2^2)^2\right)^2 &= \left(2^{2 \cdot 2}\right)^2 = 2^{2 \cdot 2 \cdot 2} \\ &= 2^8 = 256\end{aligned}$$

$$(-2)^7 = -2^7 \quad | \quad 7 = \text{πολύς αριθμός}$$

$$= -2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$$

$$= -128$$

$$\begin{aligned}
 & \left( \left( (-B)^2 \right)^5 \right)^{20} = \\
 & \stackrel{\textcircled{x}}{=} \left( (1B^2)^5 \right)^{20} \\
 & \stackrel{\textcircled{xx}}{=} (1B^{10})^{20} \\
 & \stackrel{\textcircled{xxx}}{=} 1B^{200} \\
 & = B^{200}
 \end{aligned}$$

$$\begin{aligned}
 & \stackrel{\textcircled{x}}{(-B)^2} = (-B) \cdot (-B) \\
 & \quad = (-1) \cdot (-1) B^{1+1} \\
 & \quad = 1B^2 \\
 & \stackrel{\textcircled{xx}}{(1B^2)^5} = 1^5 B^{2 \cdot 5} \\
 & \quad = 1B^{10} \\
 & \stackrel{\textcircled{xxx}}{(1B^{10})^{20}} = 1^{20} B^{10 \cdot 20} \\
 & \quad = 1B^{200}
 \end{aligned}$$


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$$\begin{aligned}
 1^{20} &= 1 \dots 1 = 1 \\
 1^5 &= 1
 \end{aligned}$$



$$\begin{aligned}
 \left( (-1z^6)^1 \right)^1 &= \left( (-1)^1 z^{6 \cdot 1} \right)^1 \\
 &= (-1z^6)^1 \\
 &= (-1)^1 z^{6 \cdot 1} \\
 &= -1z^6
 \end{aligned}$$

$$\begin{aligned}
 & \left( \right)^1 \\
 & \left( \left( \right)^1 \right)^1
 \end{aligned}$$