



TEMA 8: CÁLCULO EN CAMPOS VECTORIALES

RESULTADOS: Experimentación Activa

01-E.

- a) $f'(\vec{x}, \vec{y})_P = 8$
 b) $f'(\vec{x}, \vec{y})_P = -113$

02-E.

- a) $\vec{\nabla}f(x, y)_P = (-14, -3)$
 b) $\vec{\nabla}f(x, y)_P = \left(-\frac{1}{2}, -\pi\right)$
 c) $\vec{\nabla}f(x, y, z)_P = (0, 0, -32)$

03-E.

- a) $f'(\vec{x}, \vec{u})_P = 12/5$
 b) $f'(\vec{x}, \vec{u})_P = 3/2$
 c) $f'(\vec{x}, \vec{u})_P = -128/\sqrt{26}$
 d) $f'(\vec{x}, \vec{u})_P = \frac{25+\sqrt{3}}{2}$

04-E. $\|\vec{\nabla}f(x, y)_P\| = \sqrt{32}$

05-E. $\vec{\nabla}f(x, y)_P = (1, 0, -1/2)$

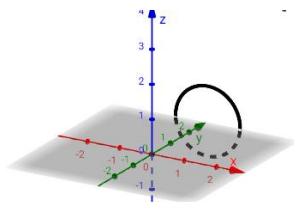
06-E. $x + y + z = 0$

07-E.
$$\begin{cases} \frac{x-2}{4} = \frac{y-4}{-9} \\ z = 10 \end{cases}$$

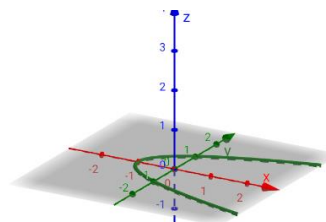
08-E.

- a) $\begin{cases} y = t \\ x = -2t - 10 \end{cases}$
 b) $\begin{cases} x = t \\ y = t - 5 \\ z = t + 1 \end{cases}$
 c) $\begin{cases} x = 5\cos t \\ y = 4\sin t \end{cases}$
 d) $\begin{cases} x = t \\ y = \frac{t^2-36}{12} \end{cases}$

09-E.



a)



b)



10-E.

$$\vec{\nabla}f(x, y, z)_p = (-1, -2, -6)$$

$$\|\vec{\nabla}f(x, y)_p\| = 16\sqrt{41}$$

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