- $C(0,0)\ ;\ R=\sqrt{6y}$
- $C(0,6)\ ;\ R=9$
- $C(0,3)\ ;\ R=3$
- $C=0\ ;\ R=3$

12) PARTIALD Given the function $f(x,y)=5x+\ln y$, determine the second derivative $f_{xy}(0,0)$

- 5
- $-\infty$
- $\frac{1}{5}$
- 0

13) LIMITS Calculate the following limit

$$\lim_{x\to-\infty} \log_{10} e^x$$

- $-\infty$
- $+\infty$
- it's not defined
- 0

14) SERIES To which function the following series corresponds

$$f(x)=\sum_{k=0}^{\infty}\frac{(2x)^{2k}}{(2k)!}$$

- $f(x)=\cos x$
- $f(x)=\sin x$
- $f(x)=\cos 2x$
- $f(x)=e^{2x}$

15) PARTIALD Determine $\overrightarrow{\nabla f}\,(-1,1)$ of $f(x,y)=x^2y$