

Answer on Question #34567 – Math – Analytic Geometry

Question

M (-4, 8) is the midpoint of line segment DE. D has coordinates (6,1). Find the coordinates of E.

Solution

Suppose that E has coordinates (x, y) . Because M is the midpoint of the segment DE then

$$\begin{cases} -4 = \frac{6+x}{2}, \\ 8 = \frac{1+y}{2}, \end{cases} \Rightarrow \begin{cases} -8 = 6 + x, \\ 16 = 1 + y, \end{cases} \Rightarrow \begin{cases} x = -14, \\ y = 15. \end{cases}$$

Answer:

E has coordinates $(-14, 15)$.