Answer to Question #87798 - Math – Analytic Geometry

Question:

9. What is the sum of $\overrightarrow{AB},-\overrightarrow{CB},\overrightarrow{CD},-\overrightarrow{ED}$?

a. $\overrightarrow{AC}$ b. $\overrightarrow{AB}$ c. $\overrightarrow{AE}$ d. $\overrightarrow{BE}$

10. What is the gradient of the line that passes through points $A(-3,-2)$ and $B(1,0)$?

a. $\frac{1}{3}$ b. $\frac{1}{2}$ c. -1 d. 1

Solution:

9. What is the sum of $\overrightarrow{AB},-\overrightarrow{CB},\overrightarrow{CD},-\overrightarrow{ED}$?

By Parallelogram law of vectors, $\overrightarrow{AB}+\overrightarrow{BC}=\overrightarrow{AC}$.

Therefore, $\overrightarrow{AB}+-\overrightarrow{CB}+\overrightarrow{CD}+-\overrightarrow{ED}=\overrightarrow{AB}+\overrightarrow{BC}+\overrightarrow{CD}+\overrightarrow{DE}=\overrightarrow{AC}+\overrightarrow{CD}+\overrightarrow{DE}=\overrightarrow{AD}+\overrightarrow{DE}=\overrightarrow{AE}$.

Answer: (c)

10. What is the gradient of the line that passes through points $A(-3,-2)$ and $B(1,0)$?

Gradient of the line *AB*, $m=\frac{y_2-y_1}{x_2-x_1}=\frac{0-(-2)}{1-(-3)}=\frac{2}{4}=\frac{1}{2}$.

Answer: (b)