Problem:

Find the cosine of the angle between the vectors $\overrightarrow{AB}$ and $\overrightarrow{AC}$.

$A(0;2;-4)$, $B(8;2;2)$, $C(6;2;4)$.

Solution:

$A(0;2;-4)$, $B(8;2;2)$, $C(6;2;4), \Rightarrow \overrightarrow{AB} = \{8-0;2-2;2-(-4)\} = \{8;0;6\}$, $\overrightarrow{AC} = \{6;0;8\} \Rightarrow$

the cosine of the angle between $\overrightarrow{AB}$ and $\overrightarrow{AC}$ will be:

$$\cos\left(\widehat{\overrightarrow{AB};\overrightarrow{AC}}\right) = \frac{\left(\overrightarrow{AB};\overrightarrow{AC}\right)}{\left|\overrightarrow{AB}\right| \cdot \left|\overrightarrow{AC}\right|} = \frac{8 \cdot 6 + 0 \cdot 0 + 6 \cdot 8}{\sqrt{8^2+6^2} \cdot \sqrt{6^2+8^2}} = \frac{96}{100} = \frac{24}{25}.$$

Answer: 24/25.