



$$\overrightarrow{AB} = (-3, 5)$$

$$\overrightarrow{BA} = (3, -5)$$

$$\overrightarrow{AC} = (-7, -1)$$

$$\overrightarrow{CA} = (7, 1)$$

$$\overrightarrow{BC} = (-4, -6)$$

$$\overrightarrow{CB} = (4, 6)$$

$$\cos \hat{A} = \frac{\overrightarrow{AB} \cdot \overrightarrow{AC}}{|\overrightarrow{AB}| \cdot |\overrightarrow{AC}|}$$

$$\cos \hat{A} = \frac{(-3) \cdot (-7) + 5 \cdot (-1)}{\sqrt{(-3)^2 + 5^2} \cdot \sqrt{(-7)^2 + (-1)^2}}$$

$$\cos \hat{A} = \frac{16}{\sqrt{34} \cdot \sqrt{50}} \quad \hat{A} = 67^\circ 10'$$

$$\cos \hat{B} = \frac{\overrightarrow{BC} \cdot \overrightarrow{BA}}{|\overrightarrow{BC}| \cdot |\overrightarrow{BA}|}$$

$$\cos \hat{B} = \frac{(-4) \cdot 3 + (-6) \cdot (-5)}{\sqrt{52} \cdot \sqrt{34}}$$

$$\cos \hat{B} = \frac{18}{\sqrt{52} \cdot \sqrt{34}} \quad \hat{B} = 64^\circ 39'$$

$$\cos \hat{C} = \frac{\overrightarrow{CA} \cdot \overrightarrow{CB}}{|\overrightarrow{CA}| \cdot |\overrightarrow{CB}|}$$

$$\cos \hat{C} = \frac{7 \cdot 4 + 1 \cdot 6}{\sqrt{50} \cdot \sqrt{52}}$$

$$\cos \hat{C} = \frac{34}{\sqrt{50} \cdot \sqrt{52}} \quad \hat{C} = 48^\circ 10' 47''$$

