

## Answer on Question #76908 – Math – Geometry

### Question

Given:

$$|u|=35; \alpha=25^\circ;$$

$$|v|=50; \beta=120^\circ.$$

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Find  $u+v$

### Solution

**Component form vectors  $u, v$**

$$u = \langle |u| \cdot \cos(\alpha); |u| \cdot \sin(\alpha) \rangle$$

$$v = \langle |v| \cdot \cos(\beta); |v| \cdot \sin(\beta) \rangle$$

**Component form of the resultant vector:**

$$u+v = \langle |u| \cdot \cos(\alpha) + |v| \cdot \cos(\beta); |u| \cdot \sin(\alpha) + |v| \cdot \sin(\beta) \rangle$$

$$u+v = \langle 35 \cdot \cos(25^\circ) + 50 \cdot \cos(120^\circ); 35 \cdot \sin(25^\circ) + 50 \cdot \sin(120^\circ) \rangle$$

$$u+v = \langle 6.72; 58.09 \rangle$$

**Answer:**  $\langle 6.72; 58.09 \rangle$