if a + b + c = 0, |a| = 3, |b| = 5 and |c| = 7, then find the angle between a and b.

$$c^2 = a^2 + b^2 - 2ab * cos\gamma$$

$$7^2 = 3^2 + 5^2 - 2 * 3 * 5 * cos\gamma$$

$$49 = 9 + 25 - 30 * cos\gamma$$

$$49 - 34 = -30 * cos\gamma$$

$$15 = -30 * cos\gamma$$

$$-\frac{1}{2} = cos\gamma$$

$$\gamma = \arccos\left(-\frac{1}{2}\right)$$

$$\gamma = \frac{2\pi}{3} = 120°$$

Answer:

$$\gamma = 120°$$