Answer on Question # 70912, Physics / Other

Question Consider two vectors A and B and their resultant A+B. The magnitudes of the vectors A and B are, respectively, 16.5 and 7.5 and they act at 130 to each other. Find the magnitude of the resultant vector A + B .

Solution By the cosine theorem magnitude of sum is

$$|a+b| = \sqrt{a^2+b^2+2ab\cos\theta} = \sqrt{16.5^2+7.5^2-2\cdot 16.5 * 7.5\cos 130^\circ} \approx 13$$