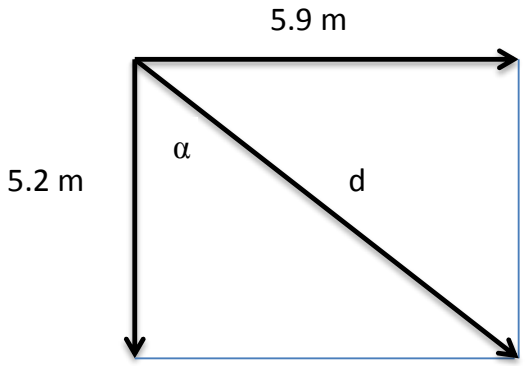
Answer on Question #39480, Physics, Mechanics | Kinematics | Dynamics

Question:

A golfer takes two putts to sink his ball in the hole once he is on the green. The first putt displaces the ball 5.90 m east, and the second putt displaces it 5.20 m south. What displacement would put the ball in the hole in one putt?

Answer:



By Pythagorean theorem:

$$d = \sqrt{5.9^2 + 5.2^2} = 7.9\ m$$

And directed:

$$\alpha = \arctan\frac{5.9}{5.2} = 48.6°$$

Answer: $7.9\ m$ $48.6°$ East of South