Answer on Question #65990-Physics-Other

Two ice skaters hold one arm each of a third skate and each pulls with a force of 150 N. calculate the resultant force pulling the third skater forward if the angle between his arms is a right angle

Solution

The angle between forces is a right angle. Thus, the resultant force pulling the third skater forward will be

$$F_{res} = \sqrt{F^2 + F^2} = \sqrt{2}F = 150\sqrt{2} \approx 212 \ N.$$

Answer: 212 N.