Problem of the Week
Problem E
Coffee Run

On Saturday morning at 8 a.m., Ayla and Hamza left their house. Ayla walked west towards the beach, and Hamza rode his e-scooter northeast to his favourite coffee shop, then headed to catch up with Ayla. Ayla walked at a constant speed of 4 km/h and Hamza rode his e-scooter at a constant speed of 20 km/h. If Hamza caught up with Ayla exactly 45 minutes after they left their house, what is the maximum possible distance between their house and the coffee shop?