Name _____ **Pythagorean Theorem Word Problems**

1. Emily is a surveyor measuring a field. She walks 50 meters north, then 30 meters east, and finally 40 meters south. How far is she from her starting point, and in which direction should she walk to return directly to her starting point?

2. Jack is setting up a diagonal clothesline in his backyard. If the distance between two posts is 6 meters, how long should the clothesline be to fit perfectly, forming a right triangle with the ground?

3. Mia is a hiker exploring a canyon. If she descends 200 meters vertically and then walks 300 meters horizontally, how long is the rope she would need to climb directly back to her starting point?

4. Ethan is flying a kite in the park. If the kite string forms a 60-degree angle with the ground and the string is 50 meters long, how high above the ground is the kite flying?

5. Sophia is rearranging her room. If her bed is placed 4 feet away from the wall and the headboard forms a right angle with the wall, how far apart are the foot of the bed and the wall?

6. Lucas is setting up a triangular garden in his backyard. If the length of one side is 10 meters and the length of the other side is 8 meters, how long should the diagonal side be to form a right triangle?

7. Olivia is a pilot flying an airplane. If she flies 400 kilometers due east and then 300 kilometers due north, how far is the airplane from its starting point?

8. Daniel is repairing a roof. If the roof rises 4 meters vertically for every 5 meters it extends horizontally, how high is the roof at a point 10 meters from the base?

9. Sarah is playing miniature golf. If she putts the ball 4 meters north and then 3 meters east, how far is the ball from the starting point, and at what angle from north?

10. Noah is setting up a triangular tent for a camping trip. If the height of the tent is 6 feet and the length of the base is 8 feet, how long should the diagonal side be to fit the tent poles perfectly?