Trigonometry – Problem Solving 1

For each of the following questions, draw a diagram first:

1. A flying fox starts at the top of a tree that is 16m tall, and ends on a platform 2m above the ground. If the angle the rope makes with the horizontal is 30 degrees, how long is the ride?

2. Terry makes a shelter in his backyard by nailing a tarp to the top of his fence and using pegs to stick the other end of the tarp into the ground. If his fence is 1.8m high and the tarp is 2.5m long, what angle does the tarp make with the ground?

3. Bobby needs to get from one side of a cliff to another. The cliff he is standing on is 72m high, and the other cliff is 57m high. The angle of depression from where Bobby is standing to the top of the other cliff is 25 degrees. All Bobby has with him is 37m of rope. Is it enough?

4. William is trying to conquer a castle with a moat. The moat is 2.5m wide, and the castle walls start immediately on the other side of the moat. William has a wooden ladder that is 10m long. If the castle's walls are 8.5m high, will William be able to conquer the castle?

5. Jane is skiing down a mountain that has a 26 degree slope. She skis for 10 minutes at 6m/s to get from the top to the bottom. How high is the mountain?