## *Right-Angle Triangles ˙5˙gg]̲[ ba Ybh*

1.      If Adrian measures the angle of elevation to the top of the Harbour Centre to be 55.5° when he is 100m away, how tall is the Harbour Centre?

2.      If Maricel has a 3.0m ladder and wants to use it to reach the top of a 2.25m wall, how far away from the wall should the base of the ladder be? (The top of the ladder will touch the top of the wall).

3.      At 1:00 PM, the angle of elevation of the sun is 60°. Will the shadow of a 5.3m tree be long enough for a 1.62m tall person to stretch out in?

4.      A boat leaves the dock at a bearing of S15°W. After travelling for 2 hours at 40 km/h, how far west has it travelled?

5.      A plane leaves the airport at a bearing of 232°. After travelling for 2 hours, it is 788 km west of the airport. How far has the airplane travelled?

6.      A UFO is sighted directly east of Reina's house. Anil lives 10km due north of Reina, and estimates his angle to the UFO to be S50°E. How far away is Reina from the UFO?

7.      A picture in an art gallery is hung at a 10° angle from the wall to provide the best view. If a 45cm tall picture is hung in this way, how far from the wall will the top of the picture be?

8.      Looking out of an office window downtown, you notice that you have to look up 18.4° to see the top of One Wall Centre, and you must look down 33.7° from looking straight ahead to see its base. If you know that you are 150m away, how tall is One Wall Centre?

9.      A boat leaves the dock at A and travels at N60°W to an island due north of the beach at B, which is 0.72km west of A. The boat continues to another dock at C, 1.83km west of A. At what bearing will the boat approach dock C?

10.     In order to measure the height of Grouse Mountain, Emma measures the angle of elevation to the summit to be 30°. She then moves 2km farther away and measures the angle of elevation to be 16.6°. How tall is Grouse Mountain?