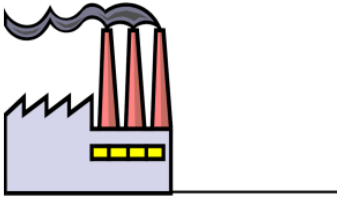
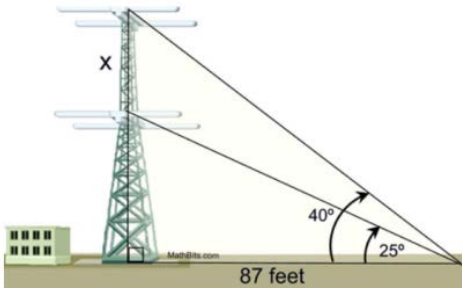


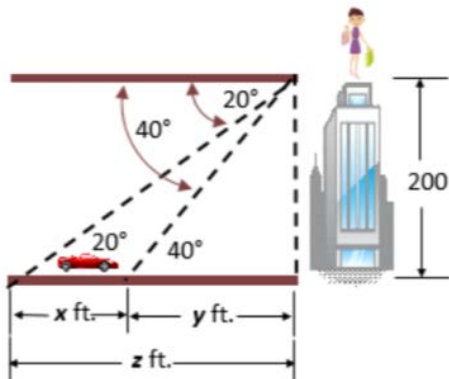
- 1) At a point 200 feet from the base of a building, the angle of elevation to the bottom of a smokestack is  $35^\circ$ , while the angle to the top is  $53^\circ$ . Find the height,  $s$ , of the smokestack alone.



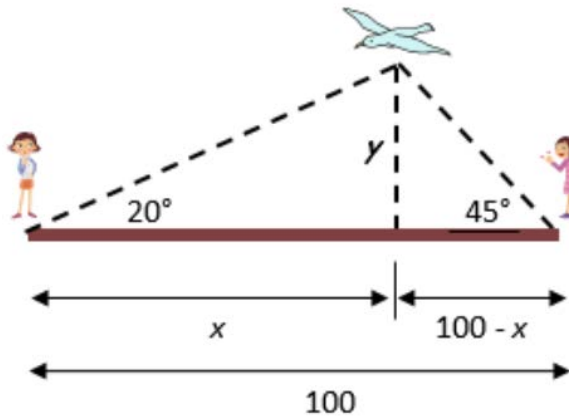
- 2) A radio station tower was built in two sections. From a point 87 feet from the base of the tower, the angle of elevation of the top of the first section is  $25^\circ$ , and the angle of elevation of the top of the second section is  $40^\circ$ . To the nearest foot, what is the height of the top section of the tower?



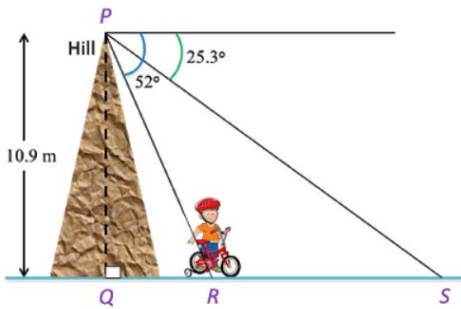
- 3) From the top of a building that is 200 feet tall, Meryl sees a car coming towards the building. (Somehow she knows that) the angle of depression when she first saw the car was  $20^\circ$  and when she stopped looking at it was  $40^\circ$  degrees. How far did the car travel?



- 4) Two girls are standing 100 feet apart. They both see a beautiful seagull in the air between them. The angles of elevation from the girls to the bird are  $20^\circ$  and  $45^\circ$ , respectively. How high up is the seagull?



- 5) The angle of depression of a cycling kid measured from a hill with 10.9 m high is  $52^\circ$ . When the kid cycles along the hillside and stops, the angle of depression becomes  $25.3^\circ$ . What is the distance cycled by the kid along the hillside?



- 6) A helicopter is hovering 800 feet above a road. A truck driver observes the helicopter at a twenty degree angle. Twenty five seconds later the truck driver notices the angle of the helicopter is now at sixty degrees. How fast is the truck moving? Round your answer to the nearest foot.