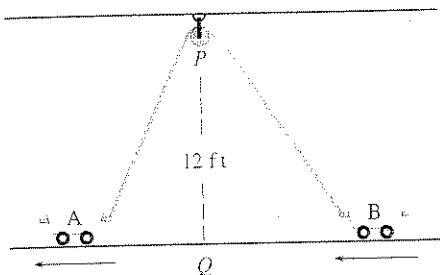


Math 182 Honors Quiz 3

21. Two carts, A and B, are connected by a rope 39 ft long that passes over a pulley P (see the figure on the next page). The point Q is on the floor 12 ft directly beneath P and between the carts. Cart A is being pulled away from Q at a speed of 2 ft/s. How fast is cart B moving toward Q at the instant when cart A is 5 ft from Q ?



15.) Suppose a landowner wishes to use 3 miles of fencing to enclose an isosceles triangular region of as large an area as possible. What should be the lengths of the sides of the triangle?