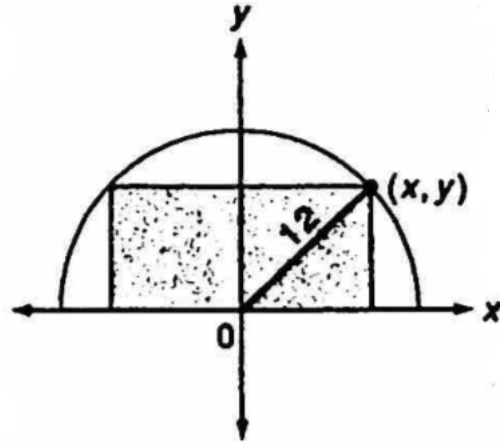


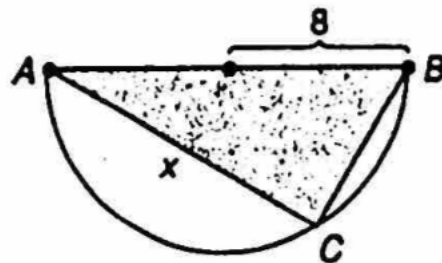
Name: _____
PCH: Modeling with Functions Practice Packet 4

Date: _____
Ms. Loughran

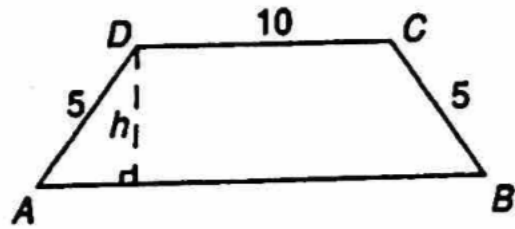
1. A rectangle is inscribed in a semicircle of radius 12 as shown. Express the area of the rectangle as a function of x .



2. Triangle ABC is inscribed in a semicircle of radius 8 so that one of its sides coincides with a diameter. Express the area of the triangle as a function of $x = AC$.



3. $ABCD$ is an isosceles trapezoid in which sides AB and DC are parallel. Express the area of the trapezoid as a function of altitude h .



4. An isosceles triangle has a perimeter of 8cm. Express the area A of the triangle as a function of the length b of the base of the triangle.

5. The figure shows a right circular cone in which r is the radius of the base, and the slant height is 10. Express the volume of the cone as a function of r .

