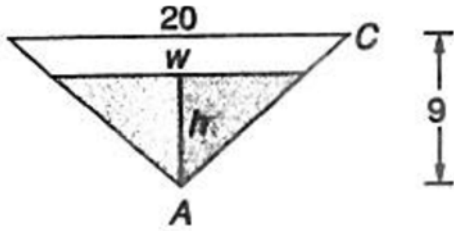


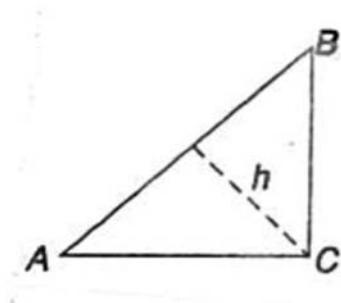
3. The height of a right circular cylinder equals its diameter. Write the volume of the cylinder as a function of its radius.

4. A circle is inscribed in a square of side s . Write the area of the circle as a function of s .

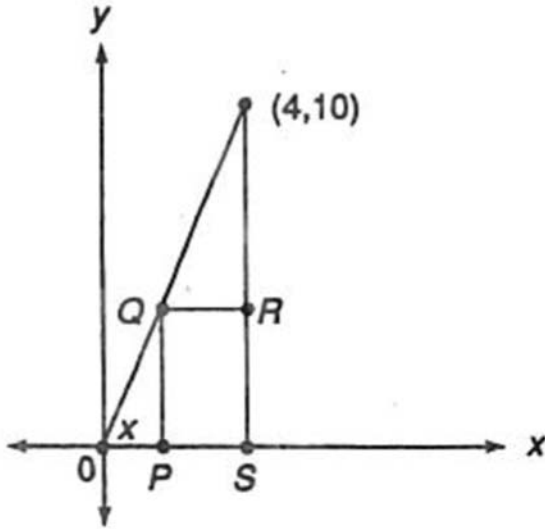
5. In the figure, the shaded triangle is similar to triangle ABC . If $BC = 20$ and the altitude of triangle $ABC = 9$, express w as a function of the altitude h of the shaded triangle and express the area of the shaded triangle as a function of h .



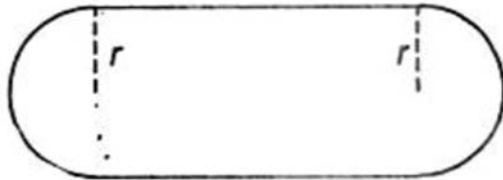
6. Triangle ABC is an isosceles right triangle with right angle at C . h is the measure of the perpendicular from C to side AB . Express the area of triangle ABC as a function of h .



7. Express the area of rectangle $PQRS$ as a function of $x = OP$.



8. An athletic field is semicircular at each end as shown. If the radius of each semicircle is r , and if the total perimeter of the field is 400 meters, express the area of the field in terms of r .



Review

9. Graph: $f(x) = \left\{ \begin{array}{ll} x^2 & \text{if } x \leq 0 \\ \sqrt{x} & \text{if } x > 0 \end{array} \right\}$

