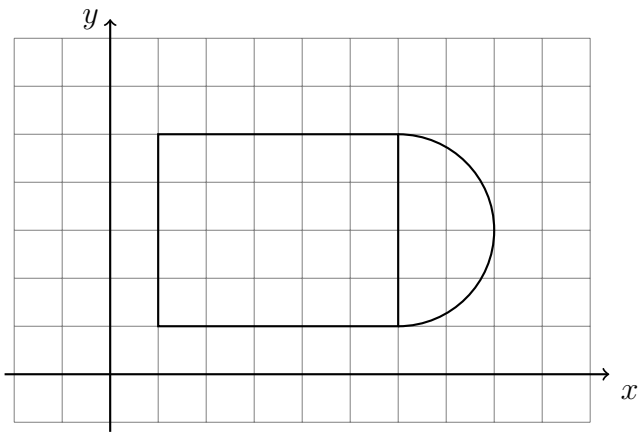
Name:

BECA / Dr. Huson / Geometry 04 Analytic Geometry

4.13 Classwork: Density

1. Find the area of the shape shown below composed of a rectangle and a semi-circle.



2. A cylinder is 12.3 cm tall and has a volume of 966 cubic cm. Find the area of the base of the cylinder. Express your result to the *nearest hundredth of a square centimeter.*

Applying density ratios

3. Find the weight of a metal block with a volume of 20 cubic inches and a density of 0.75 pounds per cubic inch.

4. A large block of ice has a volume of 45 liters. The density of ice (water) is one kilogram per liter. Find the weight of the ice.

5. A tank of gasoline holds 20 gallons. Find the cost to completely fill the tank if gasoline costs \$2.35 per gallon.

6. A bar of solid gold is in the shape of a rectangular prism having a length of 10 cm, width of 4 cm, and thickness of 1.5 cm. The density of gold is 19.3 grams per cubic cm, and its approximate market value is \$50 per gram.

   (a) Find the weight of the bar of gold.

   (b) Find its value in dollars.

Model the situation with an equation. **Do NOT solve!**

7. A large concrete post in the shape of a cylinder has a volume of 250 cubic feet. Its height is 12 feet. Find the radius of the base of the post.

8. A spherical cork fishing net float has a volume of 4000 cubic centimeters. Find its radius.

9. The volume of a cone having a **diameter** of 10 inches is 200 cubic inches. Find the cone's height.