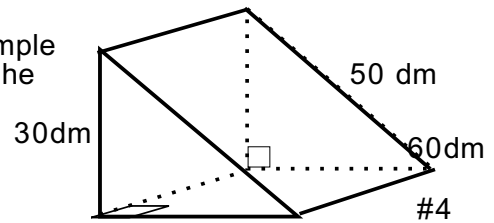
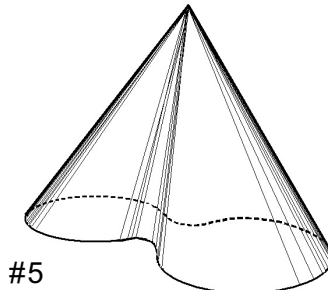
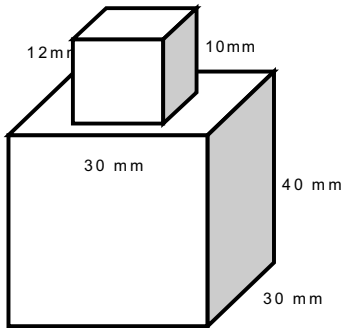


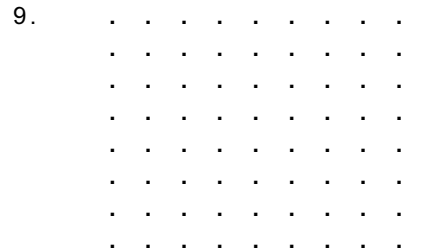
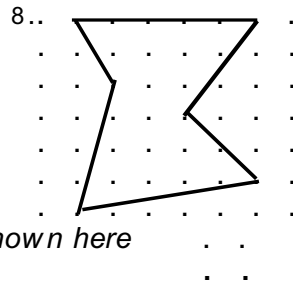
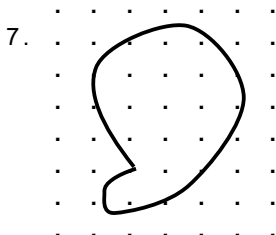
MATH 310 ♦ Sample Test on Measure ♦

Show all work.

- (10) 1a. A regular icosahedron has a 60 mL capacity.
If a new regular icosahedron is constructed with every edge twice as long as the original, what is the capacity of the new icosahedron?
- 1b. If the edge of a cube is increased by 2 cm, what is the effect on the surface area of the cube?
If the edge of a cube is increased by 20%, what is the effect on the surface area of the cube?
(One of these questions is answerable, the other is not)
- (12) 2. Convert each of the following, showing your work.
- a. 5.2 hm = ____ dm b. $53 \times 10^6 \text{ cm}^3 = \text{____ m}^3$ c. 500 ml water (at 4 °C) = ____ kg.
- (8) 3. How many liters of water are needed to fill a tank that is 1 meter wide, half a meter high and half a meter deep?. Show the dimensional analysis that leads to your answer.
- (12) 4. Find the volume of the prism shown below right. (*The small squares indicate right angles.*)
- (5) 5. The base of a cone is a 160 cm^2 region enclosed by a simple closed curve. The base has perimeter 60cm. The height of the cone is 40 cm. Find the volume of the cone.

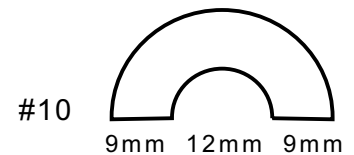


- (12) 6. Find the surface area of *the solid illustrated above left*.
Assume all angles between connected segments are right angles.



In all the above, the area shown here is one square unit.

- (5) 7. Estimate the area of the figure in #7.
- (5) 8. Find the area enclosed by the figure in #8.
- (6) 9. Find the distance between the points $(-3, 4)$ and $(5, -2)$.
- (7) 10. Find the perimeter of the figure at right. given all arcs are semicircular.
- (7) 11. Find the area of a 30° sector of a circle with radius 40 cm.



- (6) 12. Which of the following is the Volume of a sphere? _____
Which of the following is the Surface Area of a sphere? _____
- $2\pi r$ πr^2 $2\pi r^2$ $\frac{4\pi r^2}{3}$ $4\pi r^2$ $\frac{4\pi r^3}{3}$ $2\pi r^3$ $4\pi r^3$

- (8) 13. Find the area of the shaded region within the circle:

#13

