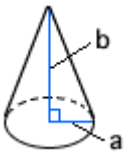
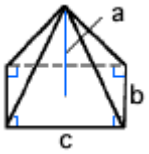
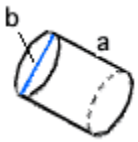
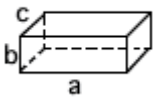
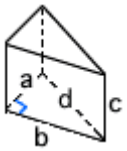
First name: _____ Last name: _____ Student ID: _____

# Geometry 2 Homework

**Basic problems**

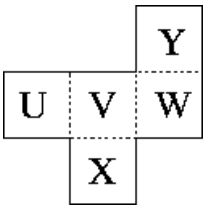
**1. Find the surface area and volume of each solid. Leave your answer in exact values and in terms of π where necessary. Show work!**

| | | |
|---|---|---|
| 1.   a = 2 yd | 2.   a = 3 m<br>b = 4 m | 3.   a = 9 cm<br>b = 8 cm<br>c = 8 cm |
| 4.   a = 14 in<br>b = 10 in | 5.   a = 35 cm<br>b = 15 cm<br>c = 21 cm | 6.   a = 33 mm<br>b = 56 mm<br>c = 9.5 mm |

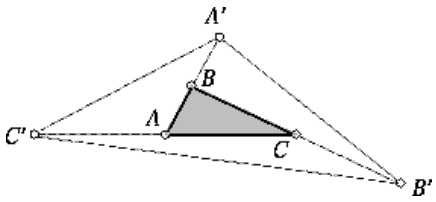
**Challenge problems**

1. Which number is closest in size to the volume of a standard chicken egg?
(A) 7 $cm^3$ (B) 70 $cm^3$ (C) 700 $cm^3$ (D) .07 $m^3$ (E) .7 $m^3$

2. The sheet shown is folded along the dotted lines to form an open box with the opening on top. Which letter is on the bottom?
(A) U (B) V (C) W (D) X (E) Y

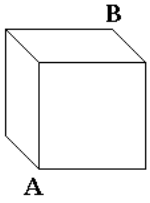



3. Triangle *ABC* has an area of 25 $cm^2$. If a larger triangle *A'B'C'* is formed by extending the sides of ABC as shown, knowing that the lengths *A'B* = *AB*, *CB'* = *BC* and *C'A* = *AC*, what is the area of triangle *A'B'C'*?



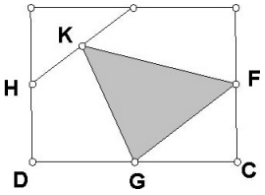

4. How many diagonals does a 12-sided regular polygon have? A regular polygon has sides of equal length and equal angles where two sides meet. A diagonal is a line which connects any two corners of the polygon, but which is not a side of the polygon.

5. An ant starts at corner **A** and walks along the edges of a cube visiting every corner of the cube exactly one time. The ant finishes the walk at corner **B**. How many edges does the ant not walk on?

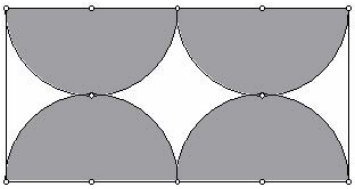


6. How many cubic millimetres are in a cubic kilometre?

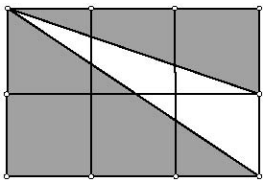
7. E, F, G and H are the midpoints of the sides of rectangle ABCD and K is the midpoint of segment HE. If the rectangle ABCD has an area of 12 $m^2$, what is the area of the triangle KFG?



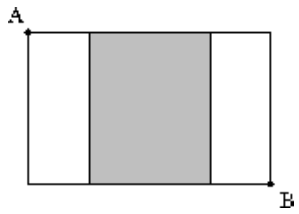

8. Four half circles of radius r are traced inside a rectangle. What is the area of the white region?



9. The figure shown is constructed of 6 squares each having side length 1. What is the area of the shaded portion?



10. Two squares, each of area 36 overlap as shown in the diagram at the right. If the overlapping area is 2/3 of one of the squares, what is the distance between the points **A** and **B**?




11. The arc lengths of the three semi-circles are indicated on the diagram. What is the area of the shaded region?