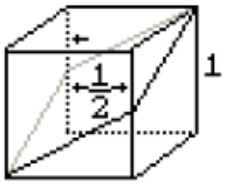
8th Grade Homework #3A

Due Date: February 30, 2014

1.

A cube is sliced by a plane which goes through two opposite corners and the midpoint of two edges as shown.



The edge of the cube has length one unit. So each side of the rhombus is

The edge of the cube has length one unit. Find the area of rhombus.

2.

P(n) is the probability than an "n" is rolled on a die.

$P(1) = P(2)$

$P(3) = P(4) = P(5)$

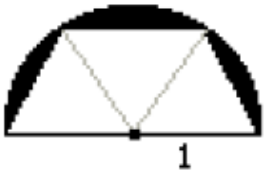
$P(4) = 3(P(2))$

$P(5) = 2(P(6))$

What is P(6)?

3.

An isosceles trapezoid is inscribed in a semicircle as shown below.



The three shaded regions are congruent. The radius of the circle is

1. Find the area of the trapezoid.

4.

Trapezoid ABCD has vertices A(1, -2), B(1, 1), C(5, 7) and D(5, 1). To find the area of the trapezoid,

5.

My age has two digits (x and y). If I reverse them, divide by three and add 20, I get my age back again. I

need to find out my age.

6.

$$(x-2)^{\left(25-x^2\right)}=1$$

Identify all the values for x.

7.

. A stack of 45 dimes is divided into three piles in the ratio $\frac{1}{6} : \frac{1}{3} : \frac{1}{4}$

Find the least number in a pile.