**Seminar 5 Application Activity**

1. Write an algebraic expression for the area of the pool’s border. Identify all variables. (3 points)

First you have to find the area of the pool (1050ft2) then find the area of the border (1476ft2) then subtract them so you have just the border left (426ft2).

x=3ft2

Area of pool: 35 \* 30 = 1050ft2

Area of border: (2x+30) \* (2x+35) = 36\*41 = 1476ft2 – 1050ft2 = 426ft2

1. Write an algebraic expression for the outside perimeter of the pool’s border. Identify all variables. (3 points)

It is a similar process, you add the total sizes of the sides instead of multiplying to get just the perimeter. Since you only need 2 sides you can then take the total and multiply it by 2 for the perimeter of the whole pool.

x=3ft2

(2x+30)+(2x+35)=(4(3)+65)=77ft\*2=154 linear ft

1. Which option is the cheapest? Support your answer mathematically. (7 points)

The cheapest is Cement.

Cement = 426ft2\*$6 = $2556

Brick = 426ft2\*$8 + $85 delivery = $3493

Flagstone = 426ft2\*$9.5 = $4047

Grass = 426ft2\*$5.5 + 154ft \* $10 = $3883

1. If you are limited by $5,000, how wide can your chosen border be? Support your answer mathematically. (7 points)

$5000/$6=833ft2 833ft2 +1050ft2= 1883ft2 (2x+30)\*(2x+36)=1883ft2 find x: x=5.485ft wide.