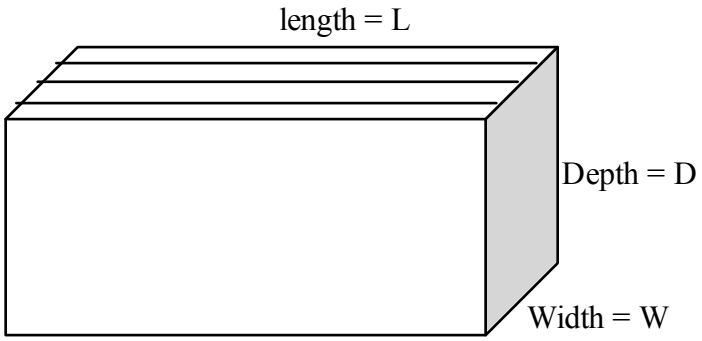
Math 46 Name: _____
Spring 2006

Painting the Pool



The length, width, and depth of a swimming pool are L, W, and D, as shown. The pool has r lanes (the diagram shows r = 4). Paint for the bottom and sides costs P dollars per gallon. Pool paint covers S square feet per gallon. Lane rope material costs R dollars per foot. Water volume is 7.48 gallons per cubic foot. Water itself costs H dollars per 1000 gallons.

(1) Write an algebraic expression giving the volume of the pool in cubic feet: _____

(2) Write an algebraic expression giving the volume of the pool in gallons: _____

(3) Write an algebraic expression giving the cost of the water in the pool in dollars, assuming it is filled to the top : _____

Simplify the algebraic expression for water cost as much as possible: _____

(4) Give the meaning of this expression: L(r–1)R = _____

(5) Give the meaning of this expression: $\frac{LW}{S}P$ = _____

(6) Give an expression for the total area to be painted: _____

(7) Give an expression for the cost of the total area to be painted: _____

(8) Give a meaning that could be attached to this expression: $\frac{2LD + 2WD}{LW}$ =

_____

(9) Give the meaning (units!) for this number: $\frac{1}{7.48}$ = _____

(10) Give the meaning (units!) for this number: $\frac{1}{H}$ = _____