The amount of snow from a storm can look impressive when it covers your house and cars, but if you melted the snow you would discover that very little water is actually involved. The 'snow to ice ratio' or Snow Ratio expresses how much volume of snow you get for a given volume of water. Typically a ratio of 10:1 (ten to one) means that every 10 inches of snowfall equals one inch of liquid water.

Problem 1 - During a winter storm called 'Snowmageddon' in 2010, the Washington DC region received about 24 inches of snow fall. If this was dry, uncompacted snow, about how many inches of rain would this equal if the Snow Ratio was 10:1 ?

Problem 2 - The Snow Ratio depends on the temperature of the air as shown in the table below:

Temp (F)	30°	25°	18°	12°	5°	-10°
Ratio	10:1	15:1	20:1	30:1	40:1	50:1

If 30 inches of snow fell in Calgary, Alberta at 18°F, and 25 inches of snow fell in Denver, Colorado where the temperature was 25° F, at which location would the most water have fallen?

Problem 1 - During a winter storm called 'Snowmageddon' in 2010, the Washington DC region received about 24 inches of snow fall. If this was dry, uncompacted snow, about how many inches of rain would this equal if the Snow Ratio was 10:1 ?

Answer: 24 inches of snow x (1 inch water/10 inches of snow) = **2.4 inches of water**.

Problem 2 - If 30 inches of snow fell in Calgary, Alberta at 18^oF, and 25 inches of snow fell in Denver, Colorado where the temperature was 25° F, at which location would the most water have fallen?

Answer - In Alberta, the Snow Ratio for 18° F is 20:1 and in Denver at 25° F it is 15:1.

The amount of water that fell in Alberta is then 30 inches of snow x (1 inch water/20 inches snow) = 1.3 inches of water. In Denver it is 25 inches of snow x (1 inch water/15 inches snow) = 1.7 inches of water. **So more water fell in Denver, even though there was less snow on the ground!**