Drain/Refill Concentration Calculation
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In general, concentration, C, is given by $C = \dfrac{(\text{amt. of stuff to be diluted})}{\begin{pmatrix}\text{total volume into which}\\ \text{stuff is to be diluted}\end{pmatrix}}$.

So after the first drain, of volume V_d, some part of the original remains, V_r.

Then after refilling with water with an amount equal to that drained off, V_d, the new concentration is $C_1 = \dfrac{V_r}{V_r + V_d} = \dfrac{V_r}{V_{total}}$.

If after allowing the new solution to mix thoroughly, the same amount is now drained off, the amount of the original stuff is diluted by the fraction C_1 so that the amount of the original stuff left is given by $C_1 V_r$.

When water is filled back in, the new second concentration is
$C_2 = \dfrac{(C_1 V_r)}{V_{total}} = C_1\left(\dfrac{V_r}{V_{total}}\right) = C_1 \cdot C_1 = (C_1)^2 = C_1^2$.

For a third drain, the amount of the original stuff remaining is $C_1(C_1 V_r) = C_1^2 V_r$ which when diluted makes for a new concentration of
$C_3 = \dfrac{(C_1^2 V_r)}{V_{total}} = C_1^2\left(\dfrac{V_r}{V_{total}}\right) = (C_1)^3 = C_1^3$.

In general, after n drains and refills, the new concentration is
$C_n = C_1^n$ where $C_1 = \dfrac{V_r}{V_{total}}$.

For a 1999 Blazer, the total coolant capacity including the overflow tank is 11.7 qts. But, for a flushing sequence, the only amount that matters is what remains in the block, radiator, and the rest of the cooling system not including the overflow tank. This amount, the V_{total} used in the calculations, is 11.7 qts minus the volume of the

overflow tank which has a volume of 1.5 qts. So for purposes of the dilution calculations, $V_{total} = 10.2\ qts$.

The amount that can be drained from the radiator spigot is also needed and this was measured to be approximately 5.4 qts.

Thus the amount left in the system after the first drain is $V_r = V_{total} - V_d = 10.2\ qts - 5.4\ qts = 4.8\ qts$. Thus the concentration after one drain and refill is $C_1 = \frac{V_r}{V_{tot}} = \frac{4.8}{10.2} = 0.47$.

So, using the formula above, the concentration after n drains and refills, the concentration of the original stuff is $C_n = (0.47)^n$ where for $n = 4$, $C_4 = 0.049 = 4.9\%$.

If the original concentration of coolant was 50%, then after the n^{th} drain and refill, the amount of coolant remaining is 50% of 4.9% or about 2.5%.