Activity 7: Solve Me!

1.) Given: $V_1 = 0.25L$, $T_1 = 283K$, $V_2 = 0.15L$

Unknown: $T_2 = ?$

Formula: $T_2 = \frac{T_1 V_2}{V_1}$

Solution: $T_2 = \frac{283 \cdot 0.15}{0.25} = 169.8K$

Answer: $\boxed{169.8\ K}$

2.) Given: $V_1 = 2.3L$, $T_1 = 298$, $T_2 = 313$

Unknown: $V_2 = ?$

Formula: $V_2 = \frac{V_1 T_2}{T_1}$

Solution: $V_2 = \frac{2.3 \cdot 313}{298} = 2.42L$

Answer: $\boxed{2.42L}$

3.) Given: $V_1 = 15L$, $T_1 = 293K$, $T_2 = 318K$

Unknown: $V_2 = ?$

Formula: $V_2 = \frac{V_1 T_2}{T_1}$

Solution: $V_2 = \frac{15 \cdot 318K}{293K} = 16.28L$

Answer: $\boxed{16.28L}$