2. (10 pts.) Solve the following equation for $V$

$$PV + nT = V$$

$$PV - V = -nT$$

$$(P-1)V = -nT$$

$$V = \frac{-nT}{P-1}$$

3. (10 pts.) Suppose that $z$ is directly proportional to $x$ and inversely proportional to $y$. If $x = 2$ and $y = 3$, then $z = 12$. Write a formula for $z$ in terms of $x$ and $y$.

$$z = \frac{kx}{y}$$

36 = $2k$

18 = $k$

Answer: $z = \frac{18x}{y}$