Combined Gas Law - One Problem

A gas occupies 3.75 L exerting 284mmHg of pressure and is at a temperature of 103degC. If I decrease the pressure to 164mmHg and heat it to 191degC what would the new volume (in L) be?

@ const n

$$V_2 = V_1\left(\frac{T_2}{T_1}\right)\left(\frac{P_1}{P_2}\right)$$

$V_1 = 3.75\,l$

$P_1 = 284\,mmHg$

$T_1 = 103^\circ C + 273 = 376\,K$

$T_2 = 191^\circ C + 273 = 464\,K$

$P_2 = 164\,mmHg$

$V_2 = ?$

$$V_2 = (3.75\,l)\left(\frac{464\,K}{376\,K}\right)\left(\frac{284\,mmHg}{164\,mmHg}\right)$$

$V_2 = 8.013\,l$

$V_2 = 8.01\,l$