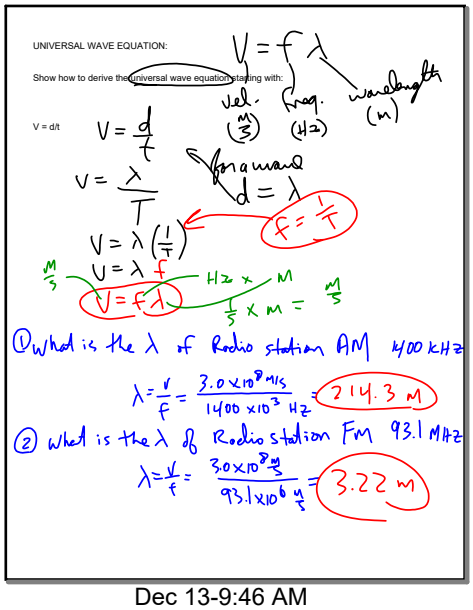
UNIVERSAL WAVE EQUATION:
Show how to derive the universal wave equation starting with:
V = d/t
$V = f\lambda$
vel. (m/s)
freq. (Hz)
wavelength (m)
$V = \frac{d}{t}$
$V = \frac{\lambda}{T}$
$V = \lambda\left(\frac{1}{T}\right)$
$V = \lambda f$
$V = f\lambda$
for a wave $d = \lambda$
$f = \frac{1}{T}$
Hz x M = M/s
$\frac{1}{s} \times M = \frac{M}{s}$
① What is the λ of Radio station AM 1400 kHz
$\lambda = \frac{v}{f} = \frac{3.0 \times 10^8 \text{ m/s}}{1400 \times 10^3 \text{ Hz}} = 214.3 \text{ m}$
② what is the λ of Radio station Fm 93.1 MHz
$\lambda = \frac{v}{f} = \frac{3.0 \times 10^8 \text{ m/s}}{93.1 \times 10^6 \text{ Hz}} = 3.22 \text{ m}$

Dec 13-9:46 AM