



Refrigeration and Air Conditioning Mechanic Level 4 Formula Sheet

1. $Q_L = CFM \times (\omega_1 - \omega_2) \times 0.68$

2. $OA \% = \frac{RA \text{ Temp} - MA \text{ Temp}}{RA \text{ Temp} - OA \text{ Temp}} \times 100$

3. $Q_S = 1.08 \times CFM \times \Delta T$

4. $Q_T = 4.5 \times CFM \times \Delta h$

5. $R = \frac{X}{K}$

6. $Q_{\text{Transmission}} = U \times \text{Area} \times \Delta T$

7. $R = \frac{1}{U}$

8. $A = \pi r^2$

9. $A = l \times w$

10. $ACPH = \frac{60Q}{\text{Volume}}$



11. $Q_{CFM} = \frac{\text{Volts} \times \text{Amps} \times 3.414}{1.08 \times \Delta T}$
12. $BTUH = X \text{ Watts} \times 3.413 \text{ BTUH/Watt}$
13. $^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$
14. $^{\circ}\text{C} = \frac{(^{\circ}\text{F} - 32)}{1.8}$
15. $\text{cfm} = \text{velocity} \times \text{area}$
16. $\text{Velocity} = 4005 \times \sqrt{\text{velocity pressure}}$
17. $MA_{\text{Temp}} = (\text{OA}\% \times \text{OA}_{\text{Temp}}) + (\text{RA}\% \times \text{RA}_{\text{Temp}})$
18. $\text{OA}\% = \frac{\text{RA}_{\text{Temp}} - \text{MA}_{\text{Temp}}}{\text{RA}_{\text{Temp}} - \text{OA}_{\text{Temp}}} \times 100$
19. $\text{GPM} = \frac{Q \text{ in BTU/Hr}}{600 \times \Delta T}$ (NOTE: $600 \approx 10 \text{ Lb/Gal} \times 1.0 \text{ BTU/Lb/}^{\circ}\text{F} \times 60 \text{ Min/Hr}$)
20. Area x Factor