

Name: _____

ARE 346N Building Environmental Systems

Quiz 2

Closed book, closed notes

February 04, 2010

4 Questions

1. Circle the correct answer: (4 points)

a) When air is heated, relative humidity:

increases stays the same decreases

b) With mist humidifier (injection of water), dry bulb temperature:

increases stays the same decreases

c) When air is cooled by the cooling coil with surface temperature below the dew point humidity ratio:

increases stays the same decreases

d) With decrease of humidity ration in the air the air, air enthalpy

always increases sometimes increases never increases

2. Circle the correct answer: (2 points)

a) When you boil the water on the stove you increase the:

- only sensible energy of air
- only latent energy of air
- sensible and latent energy of air

b) Cooling with cooling coil with surface below dew point decrease:

- sensible energy of air only
- latent energy of air only
- sensible and latent energy

3. Use the attached psychrometric chart and mark all the points in the chart (2 points)

1 lb/h of air A (T=50F, RH=70%) is heated and humidified to point B (T=75, RH=50%).

What is the sensible and latent energy?

4. Use the attached psychrometric chart and mark all the points in the chart (2 points)

1 lb/h of air C (T=80F, RH=30%) is humidified by injection of steam to RH=60% (point D).

What is the air absolute humidity (w) and temperature? (Mark all the points in the chart.)