Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Spirometry Assignment: 10 pts Complete these Four Spirometry Records

HAND IN these three pages with the answers and measurements (use ruler, show all math).

Please make a copy to study for lab/lecture exam (*you can turn in the copy or the original*).

2 pts: Spirometry #1: Assume person was 240 pounds and 6 foot 3 inches tall. Calculate TV, Breathing Rate, MRV, IRV, VC, ERV, FEV1 (L) and FEV1 (expressed as a percent of VC). Are these values normal, low or higher than average? Show math, scales, and answer (liters, breaths/min, %FEV1) for this recording:

 Liter Scale four TVs IRV FEV1 two TVs ERV

Scale: Volume-\_\_\_liters= \_\_\_\_mm Rate: \_\_\_\_\_seconds = \_\_\_mm paper

TV: IRV:

ERV: VC:

FEV1 (L) %FEV1 .

Breathing Rate: MRV:

Is each value normal, low or higher than average?

Any reason to think this person has asthma? Why or Why not?

2 pts: Spirometry #2: Assume this woman was 140 pounds and 5 foot 3 inches tall. Calculate TV, Breathing Rate, MRV, IRV, VC, ERV, FEV1 (L) and FEV1 (expressed as a percent of VC). Are these values normal, low or higher than average? Show math, scales, and answer (liters, breaths/min, %FEV1) for this recording:

 Liter Scale seven TVs IRV FEV1 Four TVs ERV

Scale: Volume-\_\_\_liters= \_\_\_\_mm Rate: \_\_\_\_\_seconds = \_\_\_mm paper

TV: IRV:

ERV: VC:

FEV1 (L) %FEV1 .

Breathing Rate: MRV:

Is each value normal, low or higher than average?

Any reason to think this person has asthma? Why or Why not?

2 pts: Spirometry #3: Assume this athlete was 360 pounds and 6 foot 8 inches tall

Calculate TV, Breathing Rate, MRV, IRV, VC, ERV, FEV1 (L) and FEV1 (expressed as a percent of VC). Are these values normal, low or higher than average? Show math, scales, and answer (liters, breaths/min, %FEV1) for this recording

 Liter Scale FourTVs IRV FEV1 TVs ERV



Scale: Volume-\_\_\_liters= \_\_\_\_mm Rate: \_\_\_\_\_seconds = \_\_\_mm paper

TV: IRV:

ERV: VC:

FEV1 (L) %FEV1 .

Breathing Rate: MRV:

Is each value normal, low or higher than average?

Any reason to think this person has asthma? Why or Why not?

2 pts: Spirometry #4: Assume this child was 75 pounds and 4 foot 1 inches tall

TV, Breathing Rate, MRV, IRV, VC (use estimate after IRV), FEV1 (L) and FEV1 (expressed as a percent of VC). Are these values normal, low or higher than average? (ERV was not directly recorded-estimate from FEV1 slope: +0.4L to -2.7L= VC= 3.1L so…ERV= 3.1L – TV – IRV)

Does this person have asthma? Why/Why not?

Show math, scales, and answer (liters, breaths/min, %FEV1) for each of the following spirometry recording:

 Liter Scale Four TVs IRV FEV1 four TVs ERV

*FOR LEFT or Y-axis ASSUME each box is 500 ml or 0.5 Liter*

Scale: Volume-\_\_\_liters= \_\_\_\_mm Rate: \_\_\_\_\_seconds = \_\_\_mm paper

TV: IRV:

ERV: VC:

FEV1 (L) %FEV1 .

Breathing Rate: MRV:

Is each value normal, low or higher than average?

Any reason to think this person has asthma? Why or Why not?

(2 pts) Compare and Contrast two things in words (10-20 words each)

1Pt: How much and why do respiratory volumes (VC, TV, etc) differ when men and women are compared? (Ballpark predictions are fine)

1Pt: How much and why would respiratory volumes (VC, TV, etc) differ when the same 155 pound woman is compared at rest and when exercising? (Ballpark predictions are fine)