The cardiovascular system: blood pressure regulation essay sample

1. a. Short term mechanisms for regulating blood pressure include regulating what three things?

1. Vessel diameter

2. Contractibility

3. Heart Rate

b. Long term mechanisms will regulate ____blood volume_____. 2. Two major arterial baroreceptors are located where?

a. Carotid Sinus

b. Aortic Arch

3. Using up and down arrows, show the effect of increased blood pressure (BP) on the impulses sent to the brain, the effect on the parasympathetic (PNS) and sympathetic (SNS) nervous systems and the resulting change in blood pressure.

🖼BP 🎭 __🖼__ impulses 🎭__🖼__ PNS and __♬ __ SNS 🎭 __♬ __ BP 4. As a result of these changes in the PNS and SNS, list two effects on the heart and one on blood vessels.

Heart: Decreases cardiac output and decreases heart rate.

Blood vessels: Vasodilation.

5. Similar to question 3, show the effect of decreasing blood pressure.

🖼BP 🎭 _♬ _ impulses 🎭 __♬ __ PNS and __🖼___ SNS 🎭 __🖼___ BP 6. In addition to effects on the heart and blood vessels, what hormones were released from the adrenal gland?

__Epinephrine_____ and

_____norepinephrine_____

7. a. What cells in the kidney monitor low blood pressure?

__Juxtaglomerular_____ b. What enzyme is released as a result of low blood pressure? ___Renin_____ c. What does this enzyme act on in the blood? ___Angiotensinogen_____ 8. Name two effects of Angiotensin II.

a. ____vasoconstriction_____

b. ____increase aldosterone release_____ 9. a. The main effect of aldosterone is: __To increase sodium and water reabsorption in the __kidneys. _____

b. How does this increase blood volume? ___An increase in sodium leads to an increase in water which leads to an increase in extracellular fluid and in turn increases blood volume. 10. a. What other hormone will increase water reabsorption from the kidney? __Antidiuretic Hormone_____

b. What is the major stimulus for this hormone? __An increase in plasma osmolarity is the major stimulus for ADH. _____