Name _____ Date _____ Period _____

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Organ Systems

Biology

Answer in complete sentences. Show your work for calculations.

1. Describe the main job of each organ system.

Organ system	Main job
Circulatory system	
Respiratory system	
Digestive system	
Excretory system	

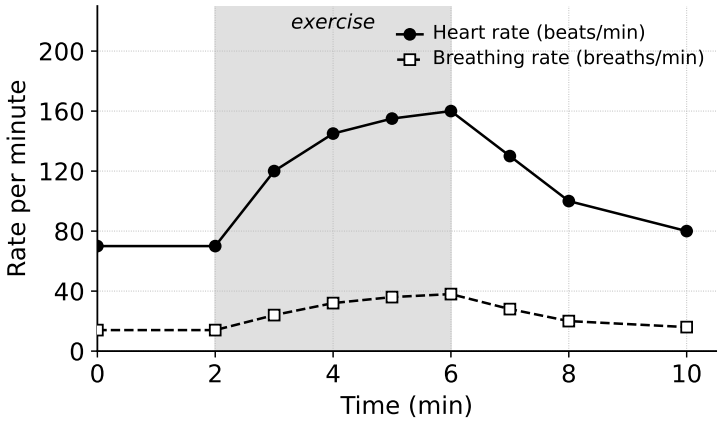
2. Cardiac output = heart rate x stroke volume (the volume of blood pumped per beat).

(a) At rest, a person has a heart rate of 72 beats per minute and a stroke volume of 70 mL. Find the cardiac output in mL per minute.

(b) During exercise, the heart rate is 160 beats per minute and the stroke volume is 105 mL. Find the cardiac output in mL per minute.

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3. A student recorded heart rate and breathing rate before, during, and after exercise (sample data).



Write a claim, evidence, and reasoning about how the two rates change.

4. During exercise, blood carbon dioxide rises and breathing rate increases, which removes carbon dioxide. Is this negative or positive feedback? Explain.

5. A leaf cell is making sugar by photosynthesis, and some of that sugar will be stored in the roots. Explain how xylem, stomata, and phloem each help. For each one, say what it moves and in which direction.

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