	<b>Don Bosco Catholic Secondary School</b>			
	<b>PSE 4U1</b>	Name:		
	<b>Chapter 5-7 Test</b>	Date:		
	Mr Notten, May 2015	K: /28	T: /5	C: /10

**Part A: Multiple Choice**

[1 K mark each]

Circle the most correct answer.

- Which energy system uses fatty acids, glucose, and glycogen to make ATP?  
a) anaerobic alactic                      b) anaerobic lactic                      c) aerobic
- Stored ATP and creatine phosphate are used up in this energy system:  
a) anaerobic alactic                      b) anaerobic lactic                      c) aerobic
- A marathon runner primarily uses this energy system (running for 4 hours):  
a) ATP-PC                                      b) glycolosys                                      c) cellular respiration
- A 100m sprinter runner primarily uses this energy system (running less than 10 seconds):  
a) ATP-PC                                      b) glycolosys                                      c) cellular respiration
- We consume carbohydrates that are then used in cellular respiration to store energy in this form:  
a) ADP                                      b) ATP                                      c) Glucose                                      d) Creatine
- Which of the following are not one of the 3 main parts of cellular respiration  
a) Krebs cycle                      b) Cori cycle                      c) Glycolosys                      d) Electron transport chain
- Which of the following is the main product of glycolysis?  
a) acetyl CoA                      b) pyruvate                      c) ADP                      d) creatine phosphate
- Which one of the following types of muscle is able to contract the fastest?  
a) Type IIA                                      b) Type IIB                                      c) Type I
- Which one of the following types of muscle fibre would you expect to have the highest concentration of myoglobin?  
a) Slow twitch                                      b) Fast twitch                                      c) Same in both

10. A long-distance cyclist would use more of which type of muscle fibre?  
a) Slow twitch                      b) Fast twitch                      c) Same amount of each
11. Which of the following is **not** part of the peripheral nervous system  
a) Parasympathetic system                      b) Somatic nervous system  
c) Sympathetic system                      d) Central nervous system
12. This part of the nervous system is responsible for making decisions:  
a) Peripheral nervous system                      b) Somatic nervous system  
c) Autonomic nervous system                      d) Central nervous system
13. The somatic nervous system is responsible for  
a) automatic functions                      b) muscle movement and balance  
c) awareness of the environment                      d) preparing the body for emergencies
14. This part of the autonomic nervous system is responsible for making the body relax after a crisis:  
a) Parasympathetic system                      b) Sympathetic System                      c) Somatic system
15. Contraction of the myocardium is controlled by the:  
a) Autonomic nervous system  
b) Central nervous system  
c) Somatic nervous system
16. Which of the following refers to the delivery of O<sub>2</sub> to the cells in the lungs, brain and other organs?  
a) External respiration                      b) Internal respiration                      c) Cellular respiration
17. The delivery of O<sub>2</sub> and removal of CO<sub>2</sub> from the cells in the stomach, liver, kidneys and other organs take place in the:  
a) alveoli                      b) veins                      c) arteries                      d) capillaries
18. In the lungs, the diffusion of O<sub>2</sub> into the blood takes place in the:  
a) alveoli                      b) trachea                      c) arteries                      d) veins
19. Tidal volume refers to  
a) the total amount of air your lungs can hold  
b) the volume of air you regularly breathe in and out  
c) the amount of air left in your lungs when you breathe out  
d) the number of breaths you take in 1 minute

20. The spirometer we built in class was meant to approximate your
- a) tidal volume
  - b) residual volume
  - c) total lung capacity
  - d) vital capacity
21.  $\text{VO}_2$  is a measure of
- a) the consumption of  $\text{O}_2$  in the body
  - b) the production of  $\text{CO}_2$  in the body
  - c) the maximum volume your lungs can hold
  - d) total lung capacity
22. You know the following has occurred when you start to breathe hard during exercise:
- a) ventilatory threshold
  - b) lactate threshold
  - c) OBLA
23. This type of recovery should be used when there is a buildup of blood lactate:
- a) Passive recovery
  - b) Active recovery
  - c) Resting recovery
24. Which of the following can be found in blood?
- a) White blood cells
  - b) Platelets
  - c) Plasma
  - d) all of the above
25. Which of the following binds  $\text{O}_2$  and  $\text{CO}_2$  so they can be transported in the blood?
- a) Myoglobin
  - b) Leukocytes
  - c) Hemoglobin
26. Which of the following binds  $\text{O}_2$  and  $\text{CO}_2$  so they can be transported in the blood?
- a) Myoglobin
  - b) Leukocytes
  - c) Hemoglobin
27. Cardiac output (Q) is a measure of
- a) the volume of blood pumped out of the left ventricle in 1 minute
  - b) blood ejected from the left ventricle in 1 beat
  - c) the efficiency of the stroke volume
  - d) the number of beats per minute
28. Which of the following **do not** assist with bringing blood back to the heart?
- a) skeletal muscle pump
  - b) arteries
  - c) veins
  - d) thoracic pump

## Part B: Short Answer

Fully answer the following questions:

1. Fill in the blanks with the 4 major regions of the heart (and the largest artery). You can use the diagram for assistance. [5 T marks]

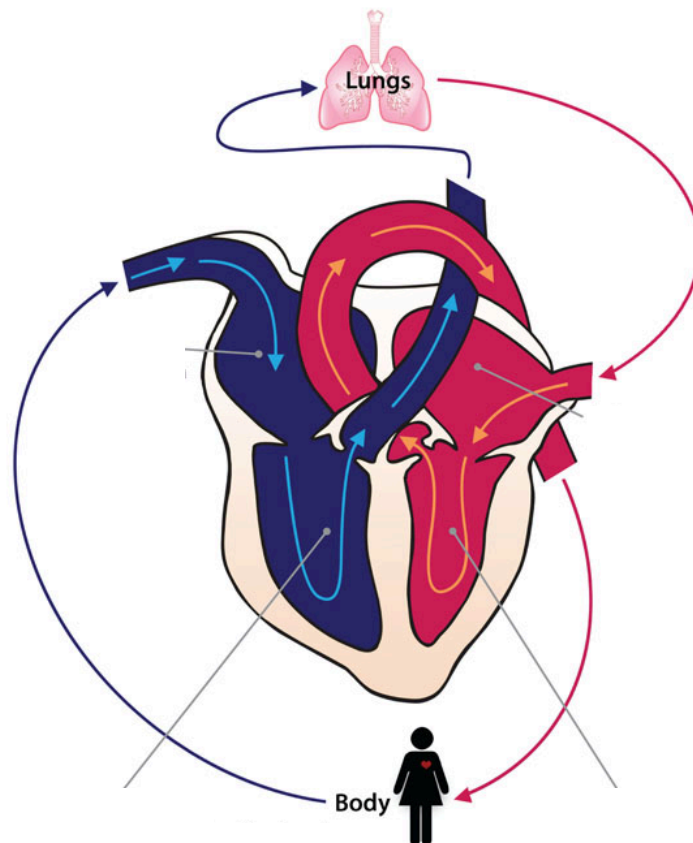
Deoxygenated blood returns to the \_\_\_\_\_ of the heart from the inferior and superior vena cava.

Then the blood enters the \_\_\_\_\_ and is pumped to the lungs via the pulmonary arteries

The blood returns to the \_\_\_\_\_ through the pulmonary veins

Then the blood enters the \_\_\_\_\_

and is pumped to the rest of the body through the \_\_\_\_\_ (the largest artery in the body).



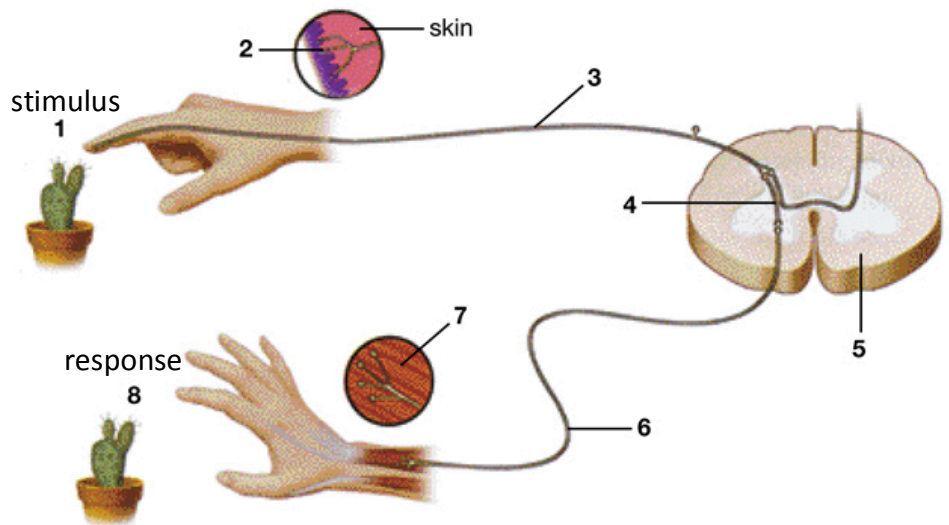
2. How many molecules of ATP does each one of the following systems yield?  
*Hint: the answers are 1, 2, 2, 32 and 36. Put them in the correct blanks* [2 C marks]

Aerobic system	_____	Krebs cycle	_____
Electron transport chain	_____	Anaerobic alactic	_____
Glycolysis	_____		

3. You decide to touch a cactus. OUCH! Before you can even think to react, your arm muscles react, moving your finger away from the source of pain.

a) Insert the numbers 2-7 in the appropriate blanks below. The numbers 1 and 8 are done for you. [6 C marks]

Sensory receptor \_\_\_\_\_  
 Interneuron \_\_\_\_\_  
 Afferent neuron \_\_\_\_\_  
 Efferent neuron \_\_\_\_\_  
 Effector \_\_\_\_\_  
 Spinal cord \_\_\_\_\_



b) Describe the difference between a spinal reflex and a cerebral reflex. What advantage does a spinal reflex have in a situation such as this? [2 C marks]

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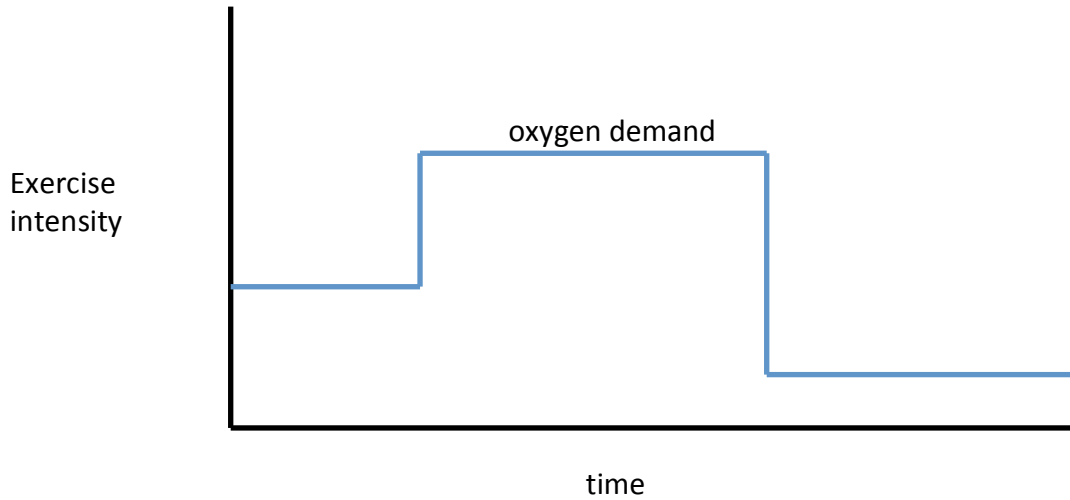


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4. You are running along at 8km/h. You suddenly increase your pace to 12 km/h. After 10 minutes, you are tired so you stop running. The oxygen demand (how much oxygen your muscles need) graph is shown below:



a) Sketch in the curve for the **oxygen uptake**. Label the oxygen deficit and EPOC (excess post-exercise oxygen consumption). [3 A marks]

b) When running long distances, why is it important to increase or decrease your pace gradually as opposed to all at once? Use the graph above to explain. [2 A marks]

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