

# Practice Exam Ch 8

Student: \_\_\_\_\_

1. Which of these processes occurs in the cytosol?
  - A. the citric acid cycle
  - B. glycolysis
  - C. the electron transport system
  - D. the preparatory reaction
  
2. Complete oxidative breakdown of glucose results in \_\_\_\_\_ ATP molecules.
  - A. 2
  - B. 4
  - C. 32
  - D. 36
  - E. 39
  
3. The preparatory reaction breaks
  - A. glucose into pyruvates.
  - B. pyruvates into glucose.
  - C. pyruvates into acetyl-CoA and carbon dioxide.
  - D. pyruvates into acetyl-CoA and water.
  - E. acetyl CoA into pyruvates and carbon dioxide.
  
4. The first reaction in the citric acid cycle is binding
  - A. carbon dioxide to a four-carbon (C<sub>4</sub>) molecule.
  - B. carbon dioxide to a five-carbon (C<sub>5</sub>) molecule.
  - C. acetyl-CoA to a C<sub>5</sub> molecule.
  - D. acetyl-CoA to a C<sub>4</sub> molecule.
  
5. Aerobic cellular respiration yields about \_\_\_\_\_ of the energy of glucose in ATP molecules.
  - A. 2%
  - B. 15%
  - C. 28%
  - D. 39%

6. The first phase of aerobically cellular respiration is:

- A. the citric acid cycle.
- B. glycolysis.
- C. the electron transport system.
- D. fermentation.
- E. the preparatory reaction.

7. Which process produces both NADH and FADH<sub>2</sub>?

- A. the citric acid cycle
- B. glycolysis
- C. the electron transport system
- D. fermentation
- E. the preparatory reaction

8. Which process produces alcohol or lactate?

- A. the citric acid cycle
- B. glycolysis
- C. the electron transport system
- D. fermentation
- E. the preparatory reaction

9. Which process reduces molecular oxygen to water?

- A. the citric acid cycle
- B. glycolysis
- C. the electron transport system
- D. fermentation
- E. the preparatory reaction

10. This product of glycolysis, \_\_\_\_\_, is degraded in the final stages of aerobic pathways.

- A. acetyl - CoA
- B. pyruvate
- C. water
- D. lactic acid
- E. oxaloacetate

11. In aerobic cellular respiration, the largest number of ATPs are produced

- A. inside the mitochondria matrix and leave through a channel protein.
- B. inside the mitochondria matrix and diffuse out through the membrane.
- C. embedded in the cristae membranes and diffuse both directions.
- D. outside the mitochondria and diffuse in through the membrane.
- E. outside the mitochondria and enter through a channel protein.

12. The electron transport chain and chemiosmosis produces \_\_\_\_\_ ATP from each NADH and/or \_\_\_\_\_ ATP from each FADH<sub>2</sub> entering the system.

- A. 4; 2
- B. 3; 2
- C. 2; 4
- D. 2; 3

13. One turn of the citric acid cycle produces

- A. 2 NADH, 2 FADH<sub>2</sub>, 2 ATP.
- B. 3 NADH, 1 FADH<sub>2</sub>, 1 ATP.
- C. 1 NADH, 3 FADH<sub>2</sub>, 2 ATP.
- D. 3 NADH, 2 FADH<sub>2</sub>, 1 ATP.
- E. 3 NADH, 1 FADH<sub>2</sub>, 2 ATP.

14. Acetyl-CoA is produced from

- A. pyruvate and a coenzyme.
- B. citric acid and a coenzyme.
- C. ATP and pyruvate.
- D. CO<sub>2</sub> and pyruvate.
- E. citric acid and CO<sub>2</sub>.

15. The carbon dioxide we exhale is produced in

- A. glycolysis.
- B. the electron transport system.
- C. lactate fermentation.
- D. the citric acid cycle.

Decide whether the following statements concerning glycolysis are true or false.