# 6-8 Assessment Questions

Module 1.0: Skating in the Zone

1. How does the area of a square compare to the area of a triangle with the same dimensions?
   a. They have the same area
   b. The triangle has double the area of a square
   c. The triangle has half the area of a square
   d. The square has half the area of a triangle

2. What would be the correct calculation for the area of the shooting triangle pictured?
   a. A = ½ (3.7)(8.8)
   b. A = (3.7)(8)(8.8)
   c. A = ½ (3.7)(8)
   d. A = ½ (3.7)(8)(8.8)
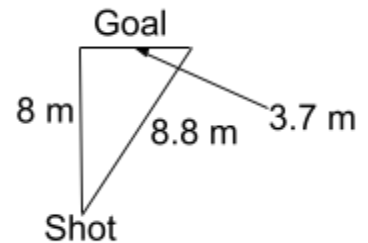
Module 2.0: Playing on Ice

1. Molecules form a definitive structure during the *solid* state known as _____ as energy/temperature decreases.
   a. Liquid
   b. Gas
   c. Molecular Structure
   d. Water

2. True or False: Molecular transformation takes place during a hockey game by way of heat/energy transfer on the ice.

Module 3.0: Kinetic Energy in Lacrosse

1. Which statement is true about kinetic energy and velocity?
   a. As velocity increases, so does kinetic energy
   b. As kinetic energy increases, so does velocity.
   c. As kinetic energy increases, velocity decreases.
   d. As kinetic energy decreases, velocity increases.

2. If I threw a softball, golf ball, lacrosse ball, and ping pong ball with a lacrosse stick at the same velocity, which would have the most kinetic energy?
   a. Softball

b. Golf ball
c. Lacrosse ball
d. Ping pong ball

Module 4.0: Wearable Technology

1. What is a better way to analyze players on the field:
   a. Point to Point tracking
   b. Density of position.
      i. Justify your answer.

2. Using the quadrant plane system diagram, how far are the players from each other?

Module 5.0: I'd Love to Keep Score

1) If the shaded part of the model represents the points scored, what is the score of the tennis match?
   a) Player A - 45 Player B - Love
   b) Player A - 15 Player B - Winning Point
   c) Player A - 40 Player B - Winning Point
   d) Player A - 15 Player B - Love
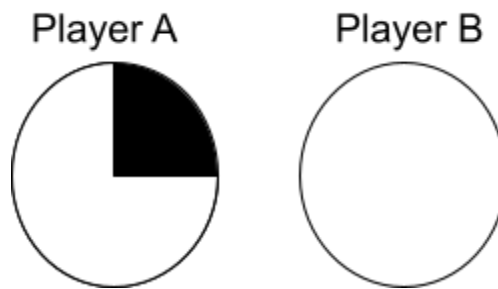
2) If Player A wins the first game (shaded portion), which fraction model represents the number of games needed to win the set?
   a) Model A
   b) Model B
   c) Model C

3) Which expression, where p = points, could be used to represent the number of points needed to win a set?
    a) $(4p)^6$
    b) 6(4p)
    c) $(4p)^{12}$
    d) 12(4p)

Module 6.0: May the Force be With You

1) The force of an object is equal to the product of the mass and the acceleration of that object is Newton's _____ law.
    a) First
    b) Second
    c) Third

2) Using the diagram to the right, which ball represents balanced forces? Which one represents an unbalanced force?
    a) Ball A is balanced, Ball B is unbalanced
    b) Ball B is balanced, Ball A is unbalanced
    c) Ball A and Ball B are balanced
    d) Ball A and Ball B are unbalanced

Ball A   Ball B
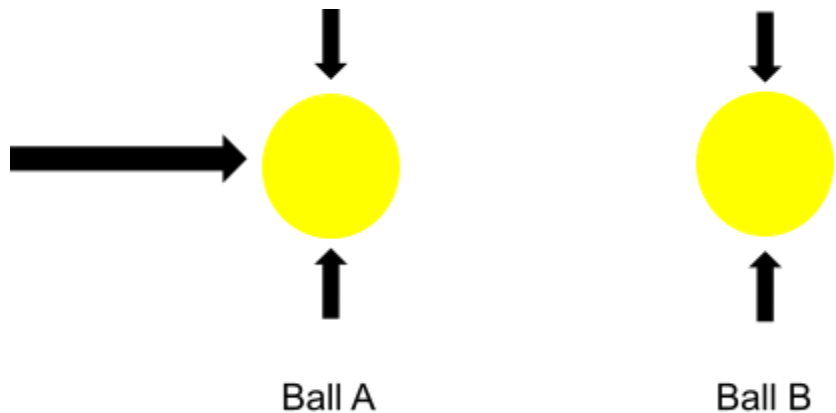
3) It takes a tennis ball 4.2 seconds to go from one baseline to the other. If it is hit with a velocity of 33.6 m/s, what is the acceleration of the ball?
    a) 0.125 m/s^2
    b) 141.12 m/s^2
    c) 37.8 m/s^2
    d) 8 m/s^2

Module 7.0: Let's Serve

1) If a student serves 6 out of their 10 serves in, how is this written as a ratio, decimal, and percentage?
   a) 6/10, 0.06., 60%
   b) 10/6, 0.06, 6%
   c) 6/10, 0.60, 60%
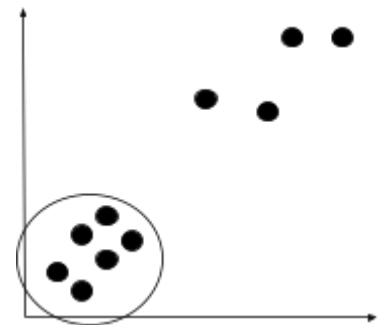   d) 6/10, 0.60, 6%

2) What type of relationship is provided in the graph to the right?
   a) Positive nonlinear relationship
   b) Negative nonlinear relationship
   c) Positive linear relationship
   d) Negative linear relationship

3) What type of feature is circled on the graph to the right?
   a) An outlier
   b) A cluster
   c) A linear relationship
   d) A positive correlation

Module 8.0: Advancement in Technology

1) Which steps are correct for the EDP (Engineering Design Process)?
   a. Brainstorming → Build → Present → Identify the problem → Redesign
   b. Identify the problem → Brainstorming → Build → Present → Redesign
   c. Present → Identify the problem → Brainstorming → Build → Redesign
   d. Identify the problem → Build → Redesign → Present

2) True or False
   Using technology in tennis will always benefit all stakeholders.

6-8 Assessment Key

Module 1.0: Skating in the Zone

1. C
2. C

Module 2.0: Playing on Ice

1. C
2. T

Module 3.0: Kinetic Energy in Lacrosse

1. B.
2. A.

Module 4.0: Wearable Technology

1. Answers will vary.
2. C.

Module 5.0: I'd Love to Keep Score

1) D
2) A
3) B

Module 6.0: May the Force be with You

1) B
2) B
3) D

Module 7.0: Let's Serve

1) C
2) C
3) B

Module 8.0: Advancements in Tennis

1) B
2) False