

# Assessment Questions

## Grades 6-8

### Module 1.0: The Puck & Stick

1. True or False: The first hockey pucks were made of cow dung.
2. Hockey is an example of \_\_\_\_\_ that has changed as the \_\_\_\_\_ was better adapted to the criteria and constraints of the game.
  - a. Technology, Engineering
  - b. Technology, Science
  - c. Technology, Math
  - d. Technology, Technology

### Module 2.0: The Net

1. What are the dimensions for the width, height, and depth of a goal?
  - a. Width = 72 in   Height = 48 in   Depth = 40 in
  - b. Width = 48 in   Height = 72 in   Depth = 40 in
  - c. Width = 40 in   Height = 48 in   Depth = 72 in
  - d. Width = 72 in   Height = 40 in   Depth = 48 in
2. Find the model length based on the scale to the right.
  - a. 4 in
  - b. 16 in
  - c. 128 in
  - d. 256 in
3. True or False. You can solve either of the proportion setups below it will result in the same answer for the model length.

$$\begin{array}{l} \text{Model} \\ \text{Actual} \end{array} \frac{1 \text{ in}}{8 \text{ in}} = \frac{L}{32 \text{ in}}$$
$$\begin{array}{l} \text{Actual} \\ \text{Model} \end{array} \frac{8 \text{ in}}{1 \text{ in}} = \frac{32 \text{ in}}{L}$$
$$\begin{array}{l} \text{Model} \\ \text{Actual} \end{array} \frac{1 \text{ in}}{8 \text{ in}} = \frac{L}{32 \text{ in}}$$

### Module 3.0: Playing on Ice

1. Molecules form a definitive structure during the *solid* state known as \_\_\_\_\_ as energy/temperature decreases.
  - a. Liquid

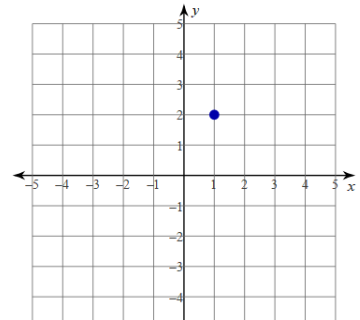
- b. Gas
- c. Molecular Structure
- d. Water

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

**Module 4.0: Ice Time**

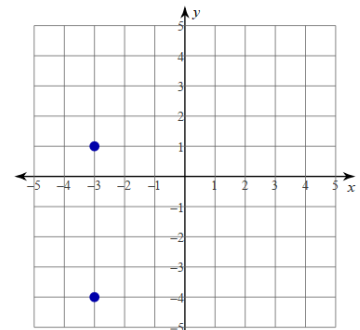
1. Which coordinate represents the location of the point on the graph?

- a. (-1,2)
- b. (1,-2)
- c. (-1,-2)
- d. (1,2)



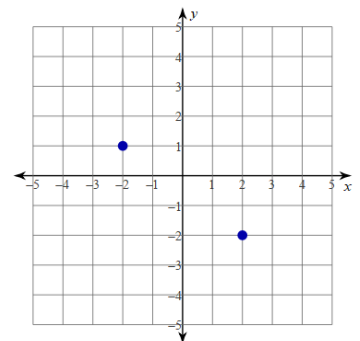
2. What is the distance between the two points on the graph?

- a. 3 units
- b. 5 units
- c. -3 units
- d. -5 units



3. What is the distance between the two points on the graph?

- a. 4 units
- b. 5 units
- c. 9 units
- d. 16 units



### **Module 5.0: Puck Precision**

1. If you shoot the puck 10 times and score on 7 of those shots, write your made goals as a percentage.
  - a. 7%
  - b. 10%
  - c. 30%
  - d. 70%
  
2. If you have a shooting percentage of 0% it is \_\_\_\_\_ you will score a goal.  
If you have a shooting percentage of 25% it is \_\_\_\_\_ you will score a goal.  
If you have a shooting percentage of 50% it is \_\_\_\_\_ you will score a goal.  
If you have a shooting percentage of 75% it is \_\_\_\_\_ you will score a goal.  
If you have a shooting percentage of 100% it is \_\_\_\_\_ you will score a goal.

Word Bank: *Unlikely, Certain, Likely, Impossible, Neither Likely nor Unlikely*

### **Module 6.0: Shooting Forces in Hockey**

1. Which of the following will calculate force?
  - a.  $A = FA$  (Acceleration equals Force times Acceleration)
  - b.  $F = MA$  (Force equals Mass times Acceleration)
  - c.  $M = AF$  (Mass equals Acceleration times Force)
  - d. None of the above
  
2. Units must be \_\_\_\_\_ for acceleration to calculate Newtons.  
Units must be \_\_\_\_\_ for mass to calculate Newtons.

Word Bank: *grams, kilograms, meters, meters per second, meters per second<sup>2</sup>, Newtons*

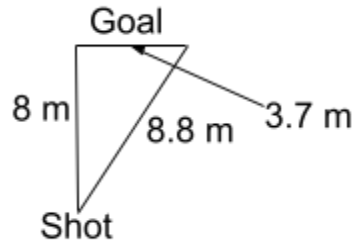
3. True or False: A change in force will NOT affect a change in motion.

### **Module 7.0: 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.  $A = \frac{1}{2} (3.7)(8.8)$
- b.  $A = (3.7)(8)(8.8)$
- c.  $A = \frac{1}{2} (3.7)(8)$
- d.  $A = \frac{1}{2} (3.7)(8)(8.8)$



### **Module 8.0: Advancements in Hockey**

1. True or False: Engineers brainstorm ways to improve and start the cycle again for best results.
  
2. Which of the following best describes instant replay in hockey?
  - a. Technology that has had only positive effects on the game.
  - b. Technology that has had only negative effects on the game
  - c. Technology that has changed as the game has changed.
  - d. Technology that has both positive and negative effects on the game.
  - e. Both c and d
  
3. True or False: It is essential to identify criteria and constraints for the redesign of a product.

# Answer Key

## Grades 6-8

### **Module 1.0: The Puck & Stick**

1. T
2. D

### **Module 2.0: The Net**

1. A
2. A
3. True

### **Module 3.0: Playing on Ice**

1. C
2. T

### **Module 4.0: Ice Time**

1. D
2. B
3. B

### **Module 5.0: Puck Precision**

1. D
2. Impossible, Unlikely, Neither Unlikely nor Likely, Likely, Certain

### **Module 6.0: Shooting Forces in Hockey**

1. B
2. Meters per second<sup>2</sup>  
Kilograms (kg)
3. F

### **Module 7.0: Skating in the Zone**

1. C
2. C

### **Module 8.0: Advancements in Hockey**

1. T
2. E
3. T