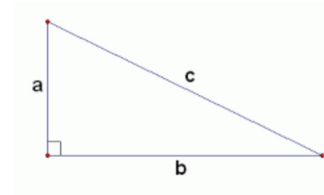# Assessment Questions

Module 1.1: Calculating Throw-Ins

1. Nathan throws the ball for a throw-in and the ball lands 248 inches away (b). Nathan is 68 inches tall (a). How far did the ball travel in the air?
   a. 178 in
   b. 213 in
   c. 257 in
   d. 340 in

2. Alexandra throws the ball for a throw-in and the ball lands 232 inches away (b). She is 59 inches tall (a). How far did the ball travel in the air?
   a. 156 in
   b. 215 in
   c. 239 in
   d. 303 in
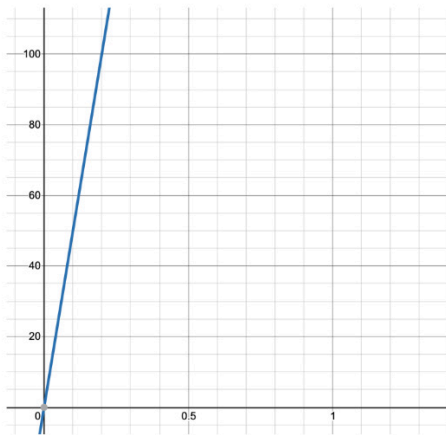
Assessment Questions

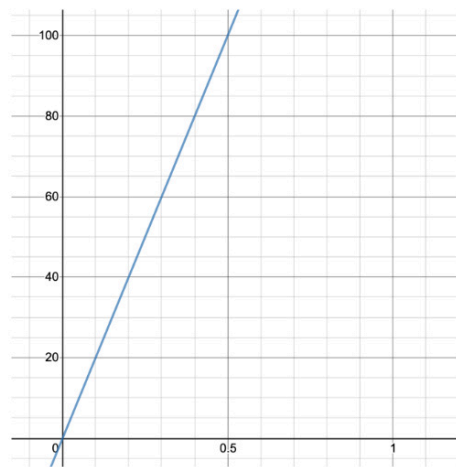## Module 2.1: Heart Rate and Calories

1. Which of the following graphs best represents the equation C = (2.5*80)*TIME?

a.

b.

c.

d.

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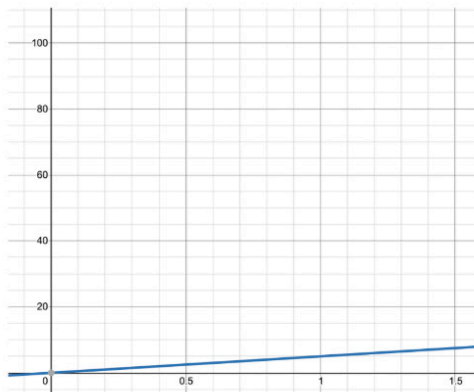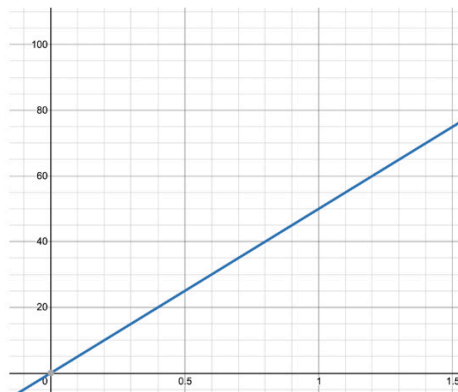
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Assessment Questions

Module 3.1: Effective Ball Travel

1. A soccer player kicks a ball that has a mass of 0.4 kg, accelerating at a rate of 7 m/s^2. What is the force acting on the ball?
   a. $F = 0.4$ kg/ 7 m/s^2
   b. $F = 0.4$ kg $* 7$ m/s^2
   c. $F = 7$ m/s^2 / 0.4 kg
   d. $F = 24$ m $* 0.4$ kg

2. Which of the following has the greatest force based on the acceleration? (The mass of the ball remains constant at 0.4 kg).
   a. A goal kick with the acceleration of 8 m/s^2
   b. A header with an acceleration of 3 m/s^2
   c. Passing the ball with an acceleration of 5 m/s^2
   d. A chest pass with the acceleration of 1 m/s^2

Module 4.1: Synthetic vs Natural Materials

1. Which of the following best describes synthetic materials?
   a. Any materials made by people: clothes, shoes, coats, socks, etc.
   b. Chemically created materials
   c. Raw materials
   d. Organic materials
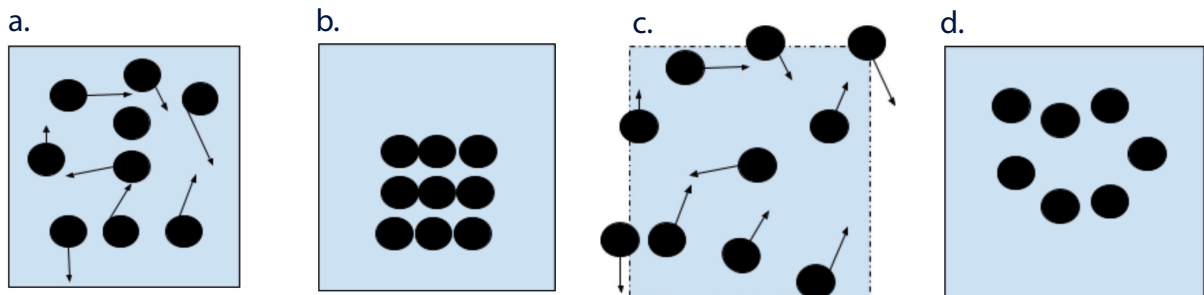
Assessment Questions

2. Imagine you just read an article about how synthetic materials can produce more effective sporting equipment. Which of the following pieces of evidence would you find in the text?

   a. "Synthetic materials are created in chemistry labs, often from petroleum. While natural materials are harvested from biological organisms."

   b. "Sporting equipment made from synthetic materials are better."

   c. "The densities of synthetic materials tend to be lower than natural materials."

   d. "Due to their physical and chemical properties, synthetic materials, such as plastic and synthetic latex, react 0.1 s faster to forces and bounce 2.0 cm higher on average."

Module 5.2: Pressure and Molecular Motion

1. As the air pressure in the soccer ball increases…

   a. The size (volume) of the ball will change

   b. It will deflate

   c. The molecules will move faster

   d. It will bounce higher

2. Which of the following diagrams shows the molecules in a normally inflated ball?

a.   b.   c.   d.

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Assessment Questions

Module 6.1: Area of Shooting Spaces

1. As the area of a shooting triangle increases….
   a. Distance between the shooter and goal also increase.
   b. The chance of successfully making a goal increases.
   c. The distance between the shooter and goal also decreases.
   d. The chance of successfully making a goal stays the same.

2. If it is assumed that the smaller the shooting triangle made by the shooter and goalie, the greater the chances of making a goal. If Carter is standing 3 feet from the goal (H) and 4ft to the left of the goalie (B), and Cameron is standing 5 feet from the goal (H) and 1 ft to the right of the goalie (B), which of the following players should the midfielder pass to?
   a. Carter: Because he is closer to the goal.
   b. Carter: Because the area of the shooting triangle is the largest.
   c. Carmeron: Because he is closer to the goalie.
   d. Carmeron: Because the area of the shooting triangle is the smallest.

Module 7.1: Goal-Line Technology

1. When should you redesign?
   a. As you are building the original design.
   b. After your beginning research.
   c. After collecting data during the test.
   d. As you are testing the original design.

2. True or False: Engineering designs are always Hi-Tech. 76

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1. Which of the following data tables shows a controlled experiment to collect data on a prototype for goal-line technology?

a.

	Test 1	Test 2	Test 3
Detected goals	Yes	Yes	Yes

b.

	Test 1	Test 2	Test 3
Detected goals	In 2 s	In 0.5 s	No

c.

	Test 1	Test 2	Test 3
Detected goals	Yes	Yes	Yes
Detected: On the line shots	No	No	Yes

Module 8.1: Probability and Penalty Kicks

1. If Suzie has a probability of making a penalty shot of 0.75, how many shots will she make over her career of 250 penalty shots?
   a. 106
   b. 143
   c. 188
   d. 231

2. Which of the following is a probability?
   a. 1.33
   b. 8
   c. 2/5
   d. 0.43

3. True or False: Rosa has a probability of making a penalty shot of 0.89. She will score the winning goal for her team.

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