1. On this scatterplot, the skate blades with the largest radius of hollow are found in: Section C

2. Using this scatterplot, you can conclude that skate blades with the smallest radius of hollow tend to have: Shorter stopping distance

3. Based on the graph, which statement is correct?
   a. As radius of hollow increases, the stopping distance increases
   b. As radius of hollow increases, the stopping distance stays the same
   c. As radius of hollow increases, the stopping distance decreases.
   d. There is no correlation between radius of hollow and stopping distance.

4. Based on this data, the blades with the shortest stopping distance are: Section A

5. In a positive correlation, when one variable increases, the other variable: Increases

6. Based on this data, you could expect a skate blade with a radius of hollow of 19mm to have a stopping distance of: 5M

7. In this experiment, you are changing the skate blade’s radius of hollow and measuring its effect on stopping distance. The stopping distance is the: The Dependent Variable

8. During an experiment, an independent variable: Changed at specific points

9. Using the scatterplot, what type of correlation is shown between radius of hollow and stopping distance? There is a positive correlation

10. In a science experiment, a correlation is: A relationship between variables

11. Mark skated 15 meters in 5 seconds. What was his average speed? 3 meters per second

12. What unit can be used to measure speed? Meters per second (m/s), miles per hour (m/h) or kilometers per hour (k/h)

13. Fill in the missing value in the table: 6

14. Fill in the missing value in the table: 4
15. Why would someone perform multiple trials in an experiment? To make sure the data is reliable.

16. A player’s sprint speeds are listed in the table. To calculate this player’s average speed: Add the speeds and divide by 4.

<table>
<thead>
<tr>
<th>TRIAL</th>
<th>TRIAL 1</th>
<th>TRIAL 2</th>
<th>TRIAL 3</th>
<th>TRIAL 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED (METERS PER SECOND)</td>
<td>6 m/s</td>
<td>5 m/s</td>
<td>7 m/s</td>
<td>5 m/s</td>
</tr>
</tbody>
</table>

17. Player A and Player B are skating the same distance, but Player B covers the distance in less time. Which player had the greater speed? Player B.

18. The average of a set of numbers is: The sum of values divided by the number of values.

19. The table shows Lisa’s speed for three trials. What was Lisa’s average speed? 6 m/s.

<table>
<thead>
<tr>
<th>TRIAL</th>
<th>TRIAL 1</th>
<th>TRIAL 2</th>
<th>TRIAL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED (METERS PER SECOND)</td>
<td>2 m/s</td>
<td>7 m/s</td>
<td>9 m/s</td>
</tr>
</tbody>
</table>

20. The calculation for speed is: Distance divided by time.

21. What is the location of Point A? (7,4).

22. Two geometric figures are congruent if they are: the same size and shape.

23. In this circle, the radius is labeled as: D.

24. Perpendicular lines intersect to form 90 degree angles.

25. In the image, which lines are parallel? Line X and Line Y.
26. What is the length of the circle’s diameter? 6 meters

27. A line segment: is a portion of a line

28. In this image, which circles are congruent? Circle A and Circle C

29. What types of lines are always the same distance apart? Parallel Lines

30. An ordered pair’s location is described by: 1 X coordinate and 1 Y coordinate

31. What tool is used to measure angles? Protractor

32. Angles are measured in this unit: Degrees

33. What is the measurement for the angle pictured? 90 degrees

34. What is the measurement for the angle pictured (in yellow)? 45 degrees
35. The Law of Reflection applies to: Hockey pucks bouncing off the boards, light bouncing off of a mirror, and sound bouncing off a wall

36. Which angle has a measurement equal to 180°? A

37. In this image, after the puck bounces off the boards, what path will it take? Path #2

38. This picture shows three non-overlapping angles that all lie on a straight line. Their angle measurements will add up to: 180 degrees

39. What is the value of the missing angle? 100 degrees

40. What is the value of the missing angle? 30 degrees
41. Which rectangle has the greater area?
   Rectangle A and B have the same area

42. What is the area of a panel that is 10 meters long and 5 meters wide? 50 square meters

43. The length and width of the rectangle are given in meters. The rectangle’s area is measured in these units: Square meters

44. What is the value of the unknown side? 3

45. A unit square: Is used to measure area, Has sides equal to 1 unit, and Has an area of 1 square unit

46. The total blue shaded area is: 30 square meters

47. The area formula for a rectangle is: Area = length x width

48. What is the area of this rectangle? 9 square meters
   a. 6 square meters
   b. 9 meters
   c. 6 meters

49. What is the value of the unknown side? 6

50. The general unit of measurement for area is: Square units
51. If all forces on a puck are balanced, as pictured, the puck will: Stay still

52. The magnitude of a force is: How fast an object moves when it is pushed

53. Friction will cause a moving object to: Slow down over time

54. When there is no friction, a gliding puck will: Keep gliding at the same speed

55. When there is more friction, a player must apply more to force to shoot the puck the same distance.

56. If the player is about to shoot the puck, applying more force will cause the puck to: Travel a longer distance and travel faster

57. Using this image, which force has a greater magnitude? Force B

58. If an object isn’t moving, the forces acting on the object are: Balanced

59. Every force has both: Magnitude and direction

60. A puck is sitting motionless on the ice. Why does it continue to stay in one place? An object at rest will stay at rest

61. As ice melts into water, the kinetic energy of its molecules: Increases

62. As temperature increases, molecules will: Move faster and gain kinetic energy

63. As the temperature of water gets colder, the speed of its molecules: Decreases

64. As molecules speed up, what happens to their kinetic energy? It Increases

65. Which phase of matter has molecules with the highest kinetic energy? Gas

66. H2O and O2 are examples of: Molecules

67. As an ice block is heated, it will go through the phases in what order: Solid phase → liquid phase → gas phase
68. Which phase of matter is displayed in this image? Liquid Phase

69. What is the smallest unit of matter? Atoms

70. In the gas phase, a sample of molecules will have: No fixed shape and volume

71. As the puck falls, the amount of potential energy it has decreases. Why? It is changed into kinetic energy

72. As the puck falls, its potential energy (PE): Decreases

73. The total energy before the puck drop will be Equal (=) to the total energy after the drop.

74. An object’s potential energy is due to its: position

75. Which puck has the most potential energy? Puck #1

76. A faster moving object has: more kinetic energy

77. As the puck falls, its kinetic energy (KE): Increases

78. The image shows a puck falling to the ice. At which point along its fall will the puck have the MOST kinetic energy? Puck #3

79. As the puck falls, its potential energy will: Convert into kinetic energy
80. When the puck is dropped, the potential energy will be equal (=) to the kinetic energy when it lands.

81. A player is skating at constant speed. As his mass increases, his kinetic energy will: increase

82. A player’s kinetic energy will most be affected by his: Speed

83. If the speed of a player doubles (2x), his kinetic energy will: Quadruple

84. Kinetic energy is: Defined as the energy of motion and affected by mass and speed

85. In a science experiment, an independent variable is: Changed purposely by the scientist

86. As players speed up, their kinetic energy will: Increase

87. If the mass of a player triples (3x), the kinetic energy of a player will: Triple (3X)

88. In an experiment, a scientist should: Change only one variable at a time

89. Which will have the GREATEST impact on kinetic energy?
   a. Doubling (2x) the mass
   b. Tripling (3x) the speed
   c. Doubling (2x) the speed
   d. Tripling (3x) the mass

90. Which will have the MOST kinetic energy?
   a. A puck traveling at 10 mph
   b. A puck traveling at 40 mph
   c. A player traveling at 10 mph
   d. A player traveling at 40 mph
   e. Not enough information

91. When exercising, muscle cells need more oxygen, so a person’s breathing rate will: Increase

92. What organ system is responsible for transporting oxygen to your cells? Circulatory system

93. Your heart rate increases when exercising because: Your muscle cells need more oxygen

94. Groups of specialized cells that work together are called: Tissues

95. Based on the graph, what is the relationship between breathing rate and exercise? More intense exercise results in faster breathing rate
96. Based on the graphs, more intense exercise: **Speeds up the heart rate**

97. What type of cell carries oxygen in the bloodstream? **Red blood cells**

98. The circulatory system is made up of: **The heart and blood vessels**

99. What some examples of organs? **Heart**

100. The circulatory system: **Transports oxygen to the body’s cells, Absorbs oxygen from the lungs, and carries oxygen in the bloodstream**

101. Using the data, which conclusion would you draw?
   a. All players prefer flexible sticks.
   b. Most players prefer flexible sticks.
   c. **Players that take wrist shots prefer flexible sticks.**
   d. Players that take wrist shots prefer stiffer sticks.

102. What is the main difference between quantitative data and qualitative data? **Quantitative data uses numbers; qualitative data means descriptions**

103. A player mostly takes slap shots and has a crouched skating style. Which stick design would you chose for the player?
   a. A flexible stick with low lie
   b. A flexible stick with high lie
   c. A stiff stick with low lie
   d. A stiff stick with high lie

104. Criteria are: **Requirements that are used to make decisions.**

105. A player prefers to skate low to the ice. Which stick should the player choose? **Stick B**
106. A player prefers to make shots that stay low to the ice. Which stick should the player choose? **Stick A**

107. “Players who skate in a crouched position prefer sticks with a low lie.” This observation is a type of: **Qualitative data**

108. An observation is a: **a type of data that is recorded by the experimenter, what an experimenter sees, hears, or smells, and any important information an experimenter collects**

109. In a science experiment, a variable is: **Purposefully changed by the experimenter**

110. Based on the data, the face angle of a hockey stick can affect: **The height of the players shot**

111. This set of goalie pads has a low movement rating. What would you adjust to improve the rating? **Change the shape to round, change the shell material to synthetic leather, change the padding material to soft foam**

112. During an experiment, an independent variable is a variable that: **is changed**

113. During an experiment, a controlled variable: **stays the same**

114. Criteria are: **Requirements that are used to make decisions**
115. In experiments, scientists only change one variable at a time because: It helps them test the specific effect of that variable.

116. You are comparing the performance of these two leg pads. In your experiment, what is a controlled variable?
   a. Shell material
   b. Padding material
   c. Weight of the pads
   d. All variables are controlled

117. You are comparing the performance of these two leg pads. In your experiment, what is your independent variable?
   a. Weight of the pads
   b. Shape of the pads
   c. Padding material
   d. Shell material

118. Based on the data, what conclusion could you reasonably make about soft foam? Soft foam better absorbs the impact of the puck.

119. Using the data, what shell material optimizes for movement? Synthetic leather

120. Using the data, which padding material optimizes for protection? Soft foam