# **Math 7 B Unit Test Guide**

## Surface Area Unit Test

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| **Item** | **Lesson Coverage** | **Objective** | **Lesson Page** | **Assessment Item** |
| 1 | Lesson 2: Prisms | Identify the bases, faces, edges, and vertices of rectangular and triangular prisms. | p. 1-7 | Identify the face, edge, and vertex of the triangular prism. Enter 1 for the face, 2 for the edge, and 3 for the vertex.Answer:1 – 12 – 33 - 2 |
| 2 | Lesson 2: Prisms | Describe the two-dimensional figures that result from slicing right rectangular and triangular prisms. | p. 8-13 | *Use the image to answer the question.*What is the two-dimensional shape created by the sliced object?Answer: triangle |
| 3 | Lesson 3: Surface Area of Cubes & Rectangular Prisms | Decompose a cube or right rectangular prism into squares and rectangles to derive the surface area formulas for a cube and a right rectangular prism. | p. 1-8 | What is a two-dimensional representation of a three-dimensional figure?Answer: a net |
| 4 | Lesson 3: Surface Area of Cubes & Rectangular Prisms | Solve mathematical problems involving surface area of cubes and right rectangular prisms. | p. 9-15 | What is the missing length of a rectangular prism where the height and width are both 9 cm and the surface area is 432 cm2?\_\_\_\_\_ cmAnswer: 7.5 |
| 5 | Lesson 4: Surface Area of Triangular Prisms | Decompose a triangular prism into triangles and rectangles or squares to derive the surface area formula for a rectangular prism. | p. 1-6 | Fill in the blanks to complete the formula for the surface area of a triangular prism.The surface area of a triangular prism is Answer:1 – *bh*2 - *l* |
| 6 | Lesson 4: Surface Area of Triangular Prisms | Solve mathematical problems involving surface area of triangular prisms. | p. 7-13 | *Use the image to answer the question.*What is the surface area of the triangular prism?\_\_\_\_\_ square centimetersAnswer: 144 |
| 7 | Lesson 5: Applications of Surface Area of Prisms | Solve real-world problems involving surface area of rectangular prisms, including cubes. | p. 1-6 | *Use the image to answer the question.*Jerry wants to wrap a present in a box for his mother. The box measures 10 cm wide, 4 cm high, and 17 cm long. How much wrapping paper will Jerry need to wrap the present?Surface area = \_\_\_\_\_ cm2Answer: 556 |
| 8 | Lesson 5: Applications of Surface Area of Prisms | Solve real-world problems involving surface area of triangular prisms. | p. 7-11 | *Use the image to answer the question.*A toy came in a container that is shaped like a triangular prism. How much wrapping paper is needed to wrap the toy? Round your answer to the nearest whole number.S. A. = \_\_\_\_\_ cm2Answer: 2,015 |
| 9 | Lesson 6: Pyramids | Identify the bases, faces, edges, and vertices of rectangular pyramids. | p. 1-5 | What is the shape of the base of a rectangular pyramid?Answer: rectangle |
| 10 | Lesson 6: Pyramids | Describe the two-dimensional figures that result from slicing right rectangular pyramids. | p. 6-11 | *Use the image to answer the question.*What two-dimensional shape is created by slicing a right rectangular pyramid perpendicular to the base?Answer: triangle |
| 11 | Lesson 7: Surface Area of Rectangular Pyramids  | Decompose a rectangular pyramid into a rectangle and triangles to derive the surface area formula for a rectangular pyramid. | p. 1-6 | *Use the image to answer the question.*What is the length of the pyramid?\_\_\_\_\_ mAnswer: 6 |
| 12 | Lesson 7: Surface Area of Rectangular Pyramids  | Solve mathematical problems involving surface area of rectangular pyramids. | p. 7-12 | *Use the image to answer the question.*What is the surface area of the rectangular pyramid?\_\_\_\_\_ cm2Answer: 435.2 |
| 13 | Lesson 8: Surface Area of Composite 3D Figures | Solve mathematical problems involving surface area of three-dimensional objects composed of cubes and right prisms. | p. 1-8 | *Use the image to answer the question.*What is the surface area of the figure?\_\_\_\_\_ ft.2Answer: 776 |
| 14 | Lesson 8: Surface Area of Composite 3D Figures | Solve real-world problems involving surface area of three-dimensional objects composed of cubes and right prisms. | p. 9-15 | *Use the image to answer the question.*In Los Cabos, Mexico, there is a big sculpture of block letters that welcomes you. The image shows the letter C. What is its surface area?\_\_\_\_\_ ft.2Answer: 266 |
| 15 | Lesson 7: Surface Area of Rectangular Pyramids  | Solve mathematical problems involving surface area of rectangular pyramids. | p. 7-12 | Calculate the surface area of the square pyramid that has a base length of 12 and a slant height of 18. Show your work.Answer: Student answers should include:Area of Square Base = $12×12=144$Area of 1 triangle = $\frac{12×18}{2}=108$Area of all 4 triangles = $4×108=432$Surface Area of Square Pyramid = $144+432=576$ square units |