Blue Lake

1. Blue Lake is one of the nicest lakes around for area swimmers. The grid below shows a scale drawing of the lake. The sides of each small square are 20 meters in length.

   a. Estimate the distance you would walk if you walked around the entire lake.

   b. Estimate the area of Blue Lake. Explain how you found your estimate.

   c. Motorboats are allowed on a lake when the area of the lake is at least 2,500 square meters. Are motorboats allowed on Blue Lake? Explain your answer.
2. The figure below is a space shape.

![Diagram of a rectangular prism with dimensions 2" x 2" x 9"]

a. Name the space shape: ________________________________

b. Using dashed lines, draw in the hidden edges in the above space shape.

c. Find the surface area of the above space shape. Be sure to state the unit of measure.

d. Find the volume of the above space shape. Be sure to state the unit of measure.

e. Draw a net for the above space shape.

3. A small television set has a picture screen that has a length of 8 inches and a width of 5 inches. What would be the diagonal length of the screen?
Forest Preserve

4. Green County Forest Preserve is a popular place for hikers. The grid below shows a scale drawing of the preserve. The sides of each small square are 15 meters in length.

![Grid drawing of the Forest Preserve]

a. Estimate the distance you would hike if you hiked around the entire preserve.

b. Estimate the area of the preserve. Explain how you found your estimate.

c. Lynx are an endangered species. They need at least 5000 square meters to survive. Can the lynx survive in the Green County Forest Preserve? Explain your answer.
5. The figure below is a space shape.

![Space Shape Diagram]

a. Name the space shape: ____________________________

b. Using dashed lines, draw in the hidden edges in the above space shape.

c. Find the surface area of the above space shape. Be sure to state the unit of measure.

d. Find the volume of the above space shape. Be sure to state the unit of measure.

e. Draw a net for the above space shape.

6. A 45-inch television is being used in the multi-media room at school. What is one possible set of dimensions (width and length) of the television screen?
Purpleopolis

7. Purpleopolis is your hometown. The grid below shows a scale drawing of the city. The sides of each small square are 50 meters in length.

![Grid Drawing of Purpleopolis](image)

a. Estimate the distance you would travel if you drove around the entire city boundary.

b. Estimate the area of Purpleopolis. Explain how you found your estimate.

c. New homes can only be built if the area is more than 100,000 square meters. Can any new homes be built in Purpleopolis? Explain your answer.
8. The figure below is a space shape.

![Diagram of a cylinder with dimensions: 10 cm diameter, 28 cm height]

a. Name the space shape: ________________________________

b. Using dashed lines, draw in the hidden edges in the above space shape.

c. Find the surface area of the above space shape. Be sure to state the unit of measure.

d. Find the volume of the above space shape. Be sure to state the unit of measure.

e. Draw a net for the above space shape.

9. A television set has a screen that is 15 inches wide and a diagonal that is 25 inches. What is the length of the television screen?
Mirror City

10. Mirror City is your hometown. The grid below shows a scale drawing of the city. The sides of each small square are 75 meters in length.

a. Estimate the distance you would travel if you drove around the entire city boundary.

b. Estimate the area of Mirror City. Explain how you found your estimate.

c. New homes can only be built if the area is more than 75,000 square meters. Can any new homes be built in Mirror City? Explain your answer.
11. The figure below is a space shape.

![Diagram of a cube with side length 1.2 m]

a. Name the space shape: ________________________________

b. Using dashed lines, draw in the hidden edges in the above space shape.

c. Find the surface area of the above space shape. Be sure to state the unit of measure.

d. Find the volume of the above space shape. Be sure to state the unit of measure.

e. Draw a net for the above space shape.

12. The Smiths made a triangular flower bed in their front yard. It is a right triangle with legs of 5 meters and 12 meters. What is the perimeter of the garden?
Mosquito Lake

13. Mosquito Lake is a wonderful lake for swimming and boating. The grid below shows a scale drawing of the lake. The sides of each small square are 35 meters in length.

a. Estimate the distance you would walk if you walked around the entire lake.

b. Estimate the area of Mosquito Lake. Explain how you found your estimate.

c. Water skiing is allowed on any lake if the area of that lake is at least 5000 square meters. Is water skiing allowed on Mosquito Lake? Explain your answer.
14. The figure below is a space shape.

![Cylinder Diagram]

a. Name the space shape: ______________________________

b. Using dashed lines, draw in the hidden edges in the above space shape.

c. Find the surface area of the above space shape. Be sure to state the unit of measure.

d. Find the volume of the above space shape. Be sure to state the unit of measure.

e. Draw a net for the above space shape.

15. A rectangular flower bed has a diagonal length of 5 feet. What is one possible set of dimensions (length and width) of this flower bed?
Fayette County Forest Preserve

16. Fayette County Forest Preserve is highly rated as a hiking area. The grid below shows a scale drawing of the preserve. The sides of each small square are 40 meters in length.

a. Estimate the distance you would hike if you hiked around the entire preserve.

b. Estimate the area of Fayette County Forest Preserve. Explain how you found your estimate.

c. Bald eagles are an endangered species and need at least 9000 square meters to survive. Can the bald eagle survive in this forest preserve? Explain your answer.
17. The figure below is a space shape.

![Cylinder diagram]

a. Name the space shape: ________________________________

b. Using dashed lines, draw in the hidden edges in the above space shape.

c. Find the surface area of the above space shape. Be sure to state the unit of measure.

d. Find the volume of the above space shape. Be sure to state the unit of measure.

e. Draw a net for the above space shape.

18. A pond is being constructed in the shape of a right triangle. If the two sides that form the right angle are 10 feet and 15 feet respectively, what is the length of the other side?