Geometry Word Problems
No Problem!

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Problem-Solving Steps

1. What are the four problem-solving steps?

2. What can you do to help yourself understand a question?

3. Name at least three plans you can use to solve math problems.

4. What should you do if your plan for solving a problem does not work?

5. How can reviewing the problem after you have an answer help you in the future?
Problem-Solving Steps

Jennifer wants to double the size of her work area. She has an area of 116 square feet. How much work area does Jennifer want?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Is the math correct?

What other plan could you use to solve this problem?

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Basic Geometry Terms

Five friends are standing in a circle. How many different line segments can be drawn that connect two friends?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Basic Geometry Terms

Harrison drew a line on a map from his home to his job. Does this sentence use correct geometric terms? Why or why not?

Beth jogged from the weight bench to the water fountain. In the diagram, what is the geometric term for the representation of the weight bench and the water fountain? Draw the path Beth jogged. What is the geometric term for the representation of Beth’s path?

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Zach told Tina to meet him at the corner of Harding Street and Warring Road. According to the map, is this possible? Why or why not?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Pickleball is a racquet sport that is played with a wiffle ball and a hard paddle. The dimensions of the court are shown in the diagram.

Which lines run parallel to the net?

Which lines run perpendicular to the net?

How are the side lines and base lines related?
Rays and Angles

Tristan was riding his skateboard, jumped it in the air, spun once, and kept going in exactly the same direction. What was the angle of Tristan’s turn?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Rays and Angles

Cossette is driving directly east on Liberty Road. She turns left to travel north on State Street. What angle turn did Cossette make?

What is the measure of the angle that is formed by the minute hand and the hour hand on a clock at exactly noon?
Angle Classification

The inner tip of a flower petal is a 30° angle. If three of the petal tips are put together, what kind of angle is formed by the three tips together?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Angle Classification

Two angles share a side. One of the angles measures 45°. The other angle measures 90°. What kind of angle is the combined angle, and what is its measure?

Theo ordered a round pizza and had it cut into eight slices. If each slice is exactly the same size, what type of angle is the tip of each slice, and what is its measure?
Angle Relationships

Angle 1 has a measure of 62°. Angle 1 and angle 2 are complementary angles. What is the measure of \( \angle 2 \)?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Angle Relationships

Tessy and Evan drew angles that are congruent. Tessy drew a 27° angle. What is the measure of the angle that Evan drew?

Jared has a 47° angle and needs to draw an angle that is supplementary to it. What should be the measure of the angle that Jared draws?
Intersecting Lines

Angle 1 and angle 2 are a linear pair. If the measure of $\angle 1$ is $54^\circ$, what is the measure of $\angle 2$?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Intersecting Lines

Spring Road and Bridge Street intersect to form the four angles shown.

The measure of the angle labeled 1 is $131^\circ$. What is the measure of angle 2? How are angle 1 and angle 2 related?

The measure of angle 1 is $131^\circ$. What is the measure of angle 3? How are angle 1 and angle 3 related?
Polygons

a. Which road sign is a rectangle?

b. Name the shape of the crosswalk sign.

Read and understand the problem.
What does the problem ask you to find?

Do you have all of the information you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Did your plan work for this problem?
Polygons

A picture frame has six sides that are the same length. Name the shape of the frame.

Macy’s dress is covered in three-sided green polygons and five-sided purple polygons. Name the shapes of the polygons.
Perimeter

Madi is hanging a string of flowers on the perimeter of a rectangular pool deck. The deck is 30 feet long and 24 feet wide. How long does the string of flowers need to be?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Brigette is putting a border around a scrapbook cover. The cover is 12 inches tall and 14.5 inches wide. How much border does Brigette need?

Joe needs to put a fence around a square vegetable garden with a side length of 12 yards. How many yards of fence does he need?
Quadrilaterals

This rectangular piece of stained glass has been marked to cut. Classify the quadrilateral that is formed when the glass is cut.

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Quadrilaterals

A figure has four congruent sides. It does not have any right angles. Name the figure.

Points are located at the center of each side of a square. The consecutive points are connected. What new figure is formed?
Triangles

Jewel cutters classify triangles when they describe the cut of a stone. By appearance, classify the triangle shown on the outlined face of this jewel by its angles and sides.

Read and understand the problem. 
*What does the problem ask you to find?*

*What information do you need to solve the problem?*

Make a plan. 
*How can you solve this problem?*

Solve the problem. 
*Carry out your plan.*

Look back. 
*Does your answer match the question?*
*Does the answer make sense?*

*Did your plan work for this problem?*
Triangles

A triangle has side lengths of 2 inches, 2 inches, and 3.5 inches. Classify the triangle by its sides.

A triangle has angle measures of 110°, 45°, and 25°. Classify the triangle by its angle measure.
Angle Sums

Kari and Armanda are on the beach watching Steven surf. From where Kari is standing, there is a 45° angle between Armanda and Steven. Steven sees a 67° angle between Kari and Armanda. What is the angle measure from Armanda’s point between Kari and Steven?

Read and understand the problem.  
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.  
How can you solve this problem?

Solve the problem.  
Carry out your plan.

Look back.  
Does your answer match the question?  
Does the answer make sense?

Did your plan work for this problem?
Angle Sums

In triangle $ABC$, the measure of angle $A$ is $60^\circ$. The measure of angle $B$ is $70^\circ$. What is the measure of angle $C$?

An isosceles triangle has one $110^\circ$ angle. What are the measures of the other two angles?
What is the sum of measures of the interior angles of a hexagon?

Read and understand the problem.

What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.

How can you solve this problem?

Solve the problem.

Carry out your plan.

Look back.

Does your answer match the question?

Does the answer make sense?

Did your plan work for this problem?
Polygon Angle Sums

What is the sum of the measures of the interior angles of a regular pentagon?

What is the measure of each interior angle in a regular pentagon?
Triangle Sides

Patrick has two poles for the front end of his tent. They are each 6 feet long. Can Patrick set up the triangular end of his tent so that the bottom side is 10 feet wide?

Read and understand the problem. 
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan. 
How can you solve this problem?

Solve the problem. 
Carry out your plan.

Look back. 
Does your answer match the question? 
Does the answer make sense?

Did your plan work for this problem?
Triangle Sides

Three straws are cut into pieces that are 3 inches, 4 inches, and 6 inches long. Can they be put together to form a triangle?

Can a triangle be formed with side lengths of 10 feet, 8 feet and 19 feet?
The Pythagorean Theorem

Televisions are advertised by the length of the diagonal of their screen. An advertised 45-inch television is 27 inches tall. How wide is the screen?

Read and understand the problem.  
*What does the problem ask you to find?*

*What information do you need to solve the problem?*

Make a plan.  
*How can you solve this problem?*

Solve the problem.  
*Carry out your plan.*

Look back.  
*Does your answer match the question?*  
*Does the answer make sense?*

*Did your plan work for this problem?*
The Pythagorean Theorem

One leg length of a right triangle is 5 inches. The other leg is 12 inches. What is the length of the hypotenuse?

The hypotenuse of a right triangle is 25 cm long. One of the legs is 24 cm long. How long is the other leg?
Area

Jane is covering her flower bed with mulch to help stop weeds from growing. What is the area of her flower bed if it is a rectangular space that is 22 feet long and 2 feet wide?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Area

A square paper has a side length of 10 inches. What is the area of the paper?

A roll of wrapping paper is 1.5 meters wide and 20 meters long. How many square meters of wrapping paper are on the roll?
Parallelogram Area

Lucia is painting a mural. The background is slanted stripes, as shown on the right. To buy paint, she must know how many square feet she will be covering. What is the area of one stripe?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?

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Parallelogram Area

A parallelogram has a base of 3 inches and a height of 12 inches. What is the area of the parallelogram?

What is the area of a parallelogram with a height of 5 feet and a base of 8 feet?
This diagram shows a section of a protected wetland that is being studied. About how many square kilometers are in the section?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?

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Triangle Area

A triangle has a base of 12 inches and a height of 3 inches. What is the area of the triangle?

What is the area of a triangle with a height of 6 meters and a base of 2 meters?
Combined Figures

A prop for a school musical is cut from a sheet of cardboard. The shape is shown in the diagram. What is the area of the shape?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Combined Figures

A frame is made using a 9 inch by 12 inch piece of wood. An 8 inch by 11 inch section is cut from the center of the wood. What is the area of the frame?

Hope is ordering new carpet for her L-shaped living room. What is the area of the living room?
Circles

Seth’s mountain bike has 38 inches between the front and back tire axle. Each tire has a radius of 10 inches to the outer edge. What is the total length of the mountain bike?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Circles

Three coins, each with a radius of 2 cm, are placed in a row. How long is the row from end to end?

The diameter of a circle is 3 feet. What is the radius?
Pi and Circumference

The shape of a snare drum head is a circle. The diameter of the drum head is 14 inches. What is the circumference? Use 22/7 for $\pi$.

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Pi and Circumference

A bagel shop has a circular bagel sign in its parking lot with a radius of 3.5 feet. The shop owner is putting a string light on the outline of the sign. How much lighting is needed?

The circular lid of a barrel has a diameter of 196 centimeters. What is the circumference of the lid?
Circle Area

The path of a tornado shows that the vortex had a radius of 26.4 meters when it touched down. What was the area of the circular region covered by the tornado when it touched down? Round to the nearest hundredth of a square meter.

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
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Circle Area

A bagel shop has a circular bagel sign in its parking lot with a radius of 3.5 feet. The shop owner is painting the front of the sign with a waterproof sparkle paint. What is the area of the front of the sign? Round to the nearest tenth.

A canning jar lid has a diameter of 2.8 inches. What is the area of the lid to the nearest hundredth of a square inch?
Similar Figures

Sydney’s senior picture package includes several sizes of portraits. The smallest photo is a 1.5-inch wide and 2-inch tall rectangle. The largest photo is 12 inches wide and is similar to the smallest photo. How tall is the largest photo?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Similar Figures

Layne made a collage out of similar triangles. The largest triangle has a height of 4 centimeters and a base of 3 centimeters. One of the smaller triangles has a height of 8 millimeters. What is the length of the base?

Julie drew a square with a side length of 2 inches. She wants to draw three more squares that are similar to the first. Name three sizes of squares she could draw, and explain how you found them.
Classify Solids

Barb got a package from her sister that was shipped in a box with two congruent pentagons on each end, and rectangular sides all around. Name the solid represented by the box.

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Classify Solids

What solid has one six-sided base and six triangular sides?

Name two types of solids that are not polyhedrons.
Volume

A small plastic cube is exactly one cubic inch. A box is packed tightly with 2 layers of the cubes. Each layer is 12 cubes across and 6 cubes long. Find the volume of the box in cubic inches.

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?
Volume

What is the volume of a moving truck’s storage area that is 8 feet tall, 20 feet long, and 12 feet across?

A packing box is 12.5 inches high, 10 inches wide, and 11 inches long. What is the volume of the packing box?
Prism Volume

Individual slices of pizza are sold in a box that is a triangular prism. The triangular base is 6 inches wide and has a height of 6 inches. The box is 3 inches tall. What is the volume of the box?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?

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Prism Volume

The base of a cylindrical can has an area of 3.6 square inches and is 9 inches tall. What is the volume of the can?

A carton of paper is 12 inches long, 4 inches wide, and 18 inches deep. What is the volume of the box?
Surface Area

Two boxes with the same volume contain soap for a fund raiser. Box A is 8 inches tall, 2 inches wide, and 6 inches deep. Box B is 9 inches tall, 3 inches wide, and 4 inches deep. Which box style has more surface area?

Read and understand the problem.
What does the problem ask you to find?

What information do you need to solve the problem?

Make a plan.
How can you solve this problem?

Solve the problem.
Carry out your plan.

Look back.
Does your answer match the question?
Does the answer make sense?

Did your plan work for this problem?

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Surface Area

What is the surface area of a cube with a side length of 4.5 feet?

A washing machine is packaged in a box that is one meter wide, 1.5 meters long and 1.75 meters tall. What is the surface area of the box?
Answers
Problem-Solving Steps
2. Possible answers: Read the problem again. Write the problem in different words.
4. Try a different plan. Don't give up.
5. It helps you know how to solve similar problems.

Page 3: Read and understand the problem.
The amount of work area Jennifer wants.
The area she has now, and how she wants it changed.
Make a plan. Possible answer: Write an equation.
Solve the problem. Jennifer wants 232 square feet of work area.
Look back. Answers may vary.

Basic Geometry Terms
Page 4: Read and understand the problem.
The number of different line segments that can be drawn between two friends.
The number of friends.
Make a plan. Possible answer: Draw a picture.
Solve the problem. You can draw ten different line segments.
Look back. Answers may vary.

Page 5: No, a line extends forever in two directions. Harrison drew a line segment.
The weight bench and water fountain are represented by points. The path drawn is a line segment.

Line Relationships
Page 6: Read and understand the problem.
If there is a corner at Harding Street and Warring Road.
A map that shows the two roads.
Make a plan. Possible answer: Use the map.
Solve the problem. It is possible for them to meet at the
corner of Harding Street and Warring Road because they intersect.  
**Look back.** Answers may vary.

**Page 7:** The base lines run parallel to the net.  
The side lines run perpendicular to the net.  
The side lines and base lines are perpendicular.

**Rays and Angles**  
**Page 8:** **Read and understand the problem.**  
The angle of Tristan’s turn.  
Tristan spun once and kept going in the same direction.  
**Make a plan.** Use what you know about angle measure.  
**Solve the problem.** The angle of Tristan’s turn was 360°.  
**Look back.** Answers may vary.

**Page 9:** Cossette made a 90° turn.  
The minute and hour hand form a 0° angle.

**Angle Classification**  
**Page 10:** **Read and understand the problem.**  
The type of angle formed by three petals together.  
The measure of the angle of each tip and the types of angles.  
**Make a plan.** Possible answer: Use addition.  
**Solve the problem.** The three tips together form a right angle.  
**Look back.** Answers may vary.

**Page 11:** The combined angle is an obtuse angle with a measure of 135°.  
Each slice has an acute 45° angle at the tip.

**Angle Relationships**  
**Page 12:** **Read and understand the problem.**  
The measure of angle 2.  
The measure of angle 1 and the definition of complementary angles.  
**Make a plan.** Possible answer: Use subtraction.  
**Solve the problem.** The measure of angle 2 is 28°.  
**Look back.** Answers may vary.
Page 13: The angle that Evan drew measures 27°.
The angle Jared draws should be 133°.

Intersecting Lines
Page 14: **Read and understand the problem.**
The measure of angle 2.
The measure of angle 1 and the definition of a linear pair.
**Make a plan.** Possible answer: Use what you know about linear pairs.
**Solve the problem.** The measure of angle 2 is 126°.
**Look back.** Answers will vary.

Page 15: The measure of angle 2 is 49°. Angles 1 and 2 are a linear pair.
The measure of angle 3 is 131°. Angles 1 and 3 are vertical angles.

Polygons
Page 16: **Read and understand the problem.**
Which sign is a rectangle and the shape of the crosswalk sign.
Yes, the information is in the pictures.
**Make a plan.** Possible answer: Use what you know about polygons.
**Solve the problem.** a. The Beach Drive sign is a rectangle.
b. The crosswalk sign is a pentagon.
**Look back.** Answers may vary.

Page 17: The frame is a hexagon.
Macy’s dress has green triangles and purple pentagons on it.

Perimeter
Page 18: **Read and understand the problem.**
The perimeter of the pool deck.
The length of each side of the deck.
**Make a plan.** Possible answer: Write an equation.
**Solve the problem.** The string of flowers needs to be 108 feet long.
**Look back.** Answers may vary.
Page 19: Brigette needs 53 inches of border.
   Joe needs 48 yards of fence.

Quadrilaterals
Page 20: **Read and understand the problem.**
   The new shape of the glass after it has been cut.
   The classification of quadrilaterals.
   **Make a plan.** Possible answer: Compare the shape to figures you know.
   **Solve the problem.** The glass is cut into a parallelogram.
   **Look back.** Answers may vary.

Page 21: The quadrilateral is a rhombus.
   The new figure is also a square.

Triangles
Page 22: **Read and understand the problem.**
   The classification of the triangle by angles and sides.
   The picture and the classifications of triangles.
   **Make a plan.** Possible answer: Use what you know about triangles.
   **Solve the problem.** The triangle appears to be an equilateral acute triangle.
   **Look back.** Answers may vary.

Page 23: The triangle is an isosceles triangle.
   The triangle is an obtuse triangle.

Angle Sums
Page 24: **Read and understand the problem.**
   The angle from Armanda's point between Kari and Steven.
   The angles between the other friends.
   **Make a plan.** Possible answer: Use a sketch and the sum of the interior angles is 180°.
   **Solve the problem.** From Armanda's point, there is a 68° angle between Kari and Steven.
   **Look back.** Answers may vary.

Page 25: The measure of angle C is 50°.
   The other two angles are each 35°.
Polygon Angle Sums

Page 26: Read and understand the problem.
   The sum of the interior angles of a hexagon.
   What a hexagon is.
   Make a plan. Possible answer: Draw a picture.
   Solve the problem. The sum of the interior angles of a hexagon is 720°.
   Look back. Answers may vary.

Page 27: The sum of the measures of the interior angles in a pentagon is 540°.
   Each interior angle in a pentagon has a measure of 108°.

Triangle Sides

Page 28: Read and understand the problem.
   If Patrick can make a triangle with the pole size and bottom length given.
   The length of the poles and bottom side.
   Make a plan. Possible answer: Use the Triangle Inequality Theorem.
   Solve the problem. Yes, Patrick can set up his tent with two 6-foot poles and a 10-foot bottom side.
   Look back. Answers may vary.

Page 29: Yes, a triangle can be formed.
   No, no triangle can be formed.

The Pythagorean Theorem

Page 30: Read and understand the problem.
   The width of the screen.
   The length of the diagonal and the height of the screen.
   Make a plan. Possible answer: Use the Pythagorean Theorem to find the width of the screen.
   Solve the problem. The screen is 36 inches wide.
   Look back. Answers may vary.

Page 31: The hypotenuse is 13 inches long.
   The other leg is 7 cm long.
**Area**

**Page 32:** Read and understand the problem.
- The area of the flower bed.
- The length and width of the flower bed.

Make a plan. Possible answer: Use a formula.

Solve the problem. The flower bed has an area of 44 square feet.

Look back. Answers may vary.

**Page 33:** The area of the paper is 100 square inches.
- There are 30 square meters of wrapping paper on the roll.

**Parallelogram Area**

**Page 34:** Read and understand the problem.
- The area of one stripe.
- The shape, height, and base length of the stripe.

Make a plan. Possible answer: Use a formula.

Solve the problem. The stripe has an area of 12 square feet.

Look back. Answers may vary.

**Page 35:** The area of the parallelogram is 36 square inches.
- The area of the parallelogram is 40 square feet.

**Triangle Area**

**Page 36:** Read and understand the problem.
- The approximate area of the protected wetland.
- The shape, height, and base length of the section.

Make a plan. Possible answer: Use a formula.

Solve the problem. There are about 1.5 square kilometers of protected wetland.

Look back. Answers may vary.

**Page 37:** The area of the triangle is 18 square inches.
- The area of the triangle is 6 square meters.
Combined Figures

Page 38: Read and understand the problem.
The area of the cut-out shape.
The measurements of the shape.
Make a plan. Possible answer: Break it apart.
Solve the problem. The area of the shape is 40 square feet.
Look back. Answers may vary.

Page 39: The frame has an area of 20 square inches.
The living room area is 546 square feet.

Circles

Page 40: Read and understand the problem.
The total length of the mountain bike.
The length between the axles and the radius of each tire.
Make a plan. Possible answer: Break it apart.
Solve the problem. The total length of the bike is 58 inches.
Look back. Answers may vary.

Page 41: The row of coins is 12 centimeters long from end to end.
The radius of the circle is 1.5 feet.

Pi and Circumference

Page 42: Read and understand the problem.
The circumference of the drum head.
The radius or diameter of the drum head.
Make a plan. Possible answer: Use a formula.
Solve the problem. The drum head has a circumference of about 44 inches.
Look back. Answers may vary.

Page 43: The shop owner needs about 22 feet of lighting.
The circumference of the lid is about 616 centimeters.

Circle Area

Page 44: Read and understand the problem.
The area of the circular region.
The radius or diameter of the region.
Make a plan. Possible answer: Use a formula.
Solve the problem. The area of the region covered by the
tornado when it touched down was about 2,188.45 square meters.

Look back. Answers may vary.

Page 45: The front of the sign has an area of about 38.5 square feet. The canning jar lid has an area of about 6.15 square inches.

Similar Figures

Page 46: Read and understand the problem.
  The height of the largest photo.
  The dimensions of a smaller photo and the width of the largest photo.

Make a plan. Possible answer: Use a proportion.

Solve the problem. The photo is 16 inches tall.

Look back. Answers may vary.

Page 47: The triangle has a base length of 6 millimeters. Answers can be any side length. All squares are similar since they always have four right angles and congruent sides.

Classify Solids

Page 48: Read and understand the problem.
  The name of the shape of the box.
  A description or picture of the box.

Make a plan. Possible answer: Use what you know.

Solve the problem. The box is a pentagonal prism.

Look back. Answers may vary.

Page 49: The solid is a hexagonal pyramid. Spheres and cones are solids that are not polyhedrons.
Volume
Page 50: Read and understand the problem.
The volume of the box.
The number of layers and the number of cubes in each layer.
Make a plan. Possible answer: Draw a picture.
Solve the problem. The volume of the box is 144 cubic inches.
Look back. Answers may vary.

Page 51: The storage area of the moving truck is 1,920 cubic feet.
The volume of the packing box is 1,375 cubic inches.

Prism Volume
Page 52: Read and understand the problem.
The volume of the box.
The shape and dimensions of the box.
Make a plan. Possible answer: Use a formula.
Solve the problem. The volume of the box is 54 cubic inches.
Look back. Answers may vary.

Page 53: The volume of the can is 32.4 cubic inches.
The volume of the carton is 864 cubic inches.

Surface Area
Page 54: Read and understand the problem.
Which of the two boxes has more surface area.
The dimensions of each box.
Make a plan. Possible answer: Make a table.
Solve the problem. Box A has a surface area of 152 square inches. Box B has a surface area of 150 square inches.
Box A has more surface area.
Look back. Answers may vary.

Page 55: The cube has a surface area of 121.5 square feet.
The box has a surface area of 11.75 square meters.