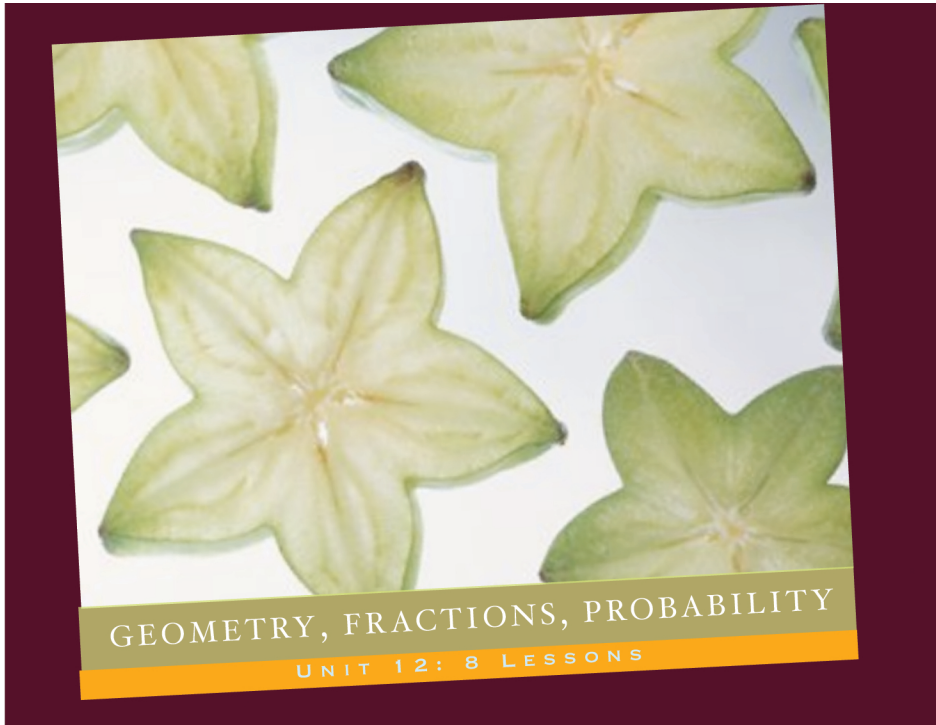


MATH FOLIO

educational activities



GEOMETRY, FRACTIONS, PROBABILITY

UNIT 12: 8 LESSONS

UNIT SUMMARY

David will discover a wide range of differences between space figures, plane figures, and congruent figures. He'll learn about corresponding faces, corners and edges. He'll learn lines of symmetry,

and slides and flips. Using space figures, David will learn to estimate fractions, predict and record outcomes, and determine the likelihood of an outcome.

Unit 12, Lesson 1 Warm-Up

Solve.

$$\begin{array}{r} 40 \\ + 6 \\ \hline 46 \end{array} \qquad \begin{array}{r} 60 \\ + 7 \\ \hline 67 \end{array}$$

Count on by tens:

50, 60, 70, 80, 90, 100

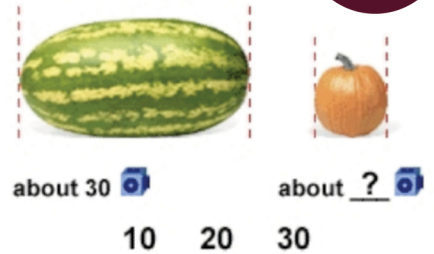
Count back by fives:

70, 65, 60, 55, 50, 45

NOVEMBER 2009

Compare the lengths.

10



Compare the lengths.

8



How many flat surfaces does the pyramid have?



5

Does the cone have more flat surfaces, or more curved surfaces?



NEITHER

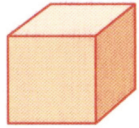
Find your space figures and prepare a large Venn diagram comparing flat sides and curved sides.

Same Shape

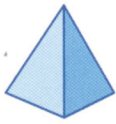
Unit 12, Lesson 1, pp. 251

Solids that cannot roll have all **flat surfaces**.

Solids that roll have a **curved surface**.



cube



pyramid



rectangular prism



cylinder



sphere



cone



Which solids stack and roll?
Which solids slide and roll?

Ring the objects that have the same shape.

1.					
2.					
3.					
4.					
5.					

Name the Space Figure

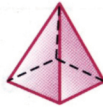
Unit 12, Lesson 1, pp. 252



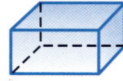
cube



cone



pyramid



rectangular prism




cylinder



sphere

Sort the space figures. Write their names.

1. It rolls and has 2 flat surfaces. cylinder
2. It rolls and has 1 flat surface. cone
3. It has 6 flat surfaces. CUBE
or rectangular PRISM
4. It has no flat surfaces. SPHERE
5. It can be built from these 6 squares.  CUBE
6. It has 5 flat surfaces. PYRAMID



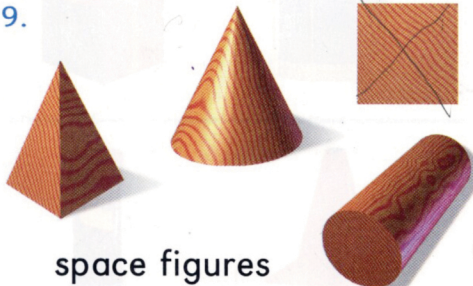
Use the space figures above.
Write **Yes** or **No**.

7. Can you stack a pyramid on top of a cone? NO
8. Can you stack a cone on top of a cylinder? NO



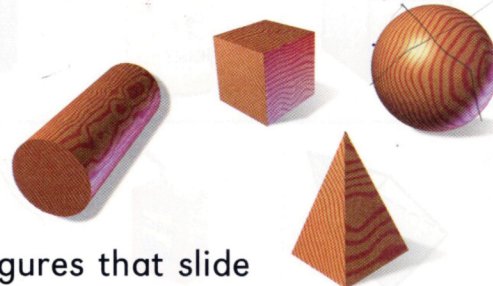
X out what does not belong.

9.



space figures

10.



figures that slide

Lots of confusion over Space Figs vs. Plane Figs.

Assessment

Unit 12, Lesson 1

100% A

Which objects have the same shape as the first one?



Which objects have the same shape as the first one?



Write the name of the space figure.



cone

It has only 1 flat surface: **cone**



pyramid

It has 5 flat surfaces: **pyramid**



sphere

It has no flat surfaces: **sphere**

Name the Space Figure

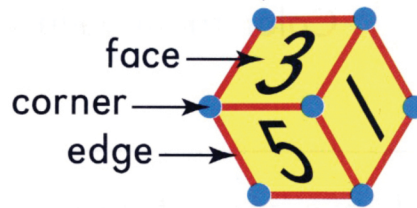
Unit 12, Lesson 1, pp. 253

Space figures that cannot roll have faces, corners, and edges.


The **faces** are flat surfaces.

The blue dots show some **corners**.

The red lines show some **edges**.



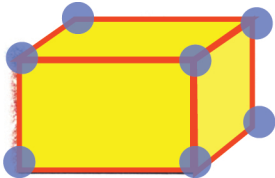
Each face of the number cube has a number from 1 to 6. What numbers are hidden?

Color the faces you see .

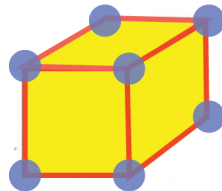
Color the edges you see .

Color the corners you see .

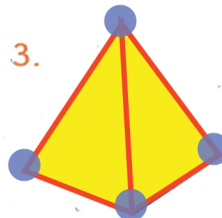
1.



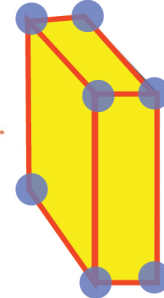
2.



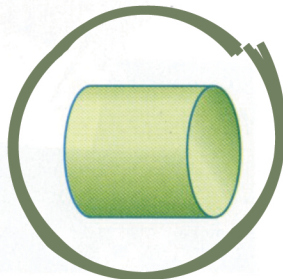
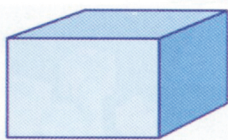
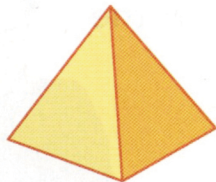
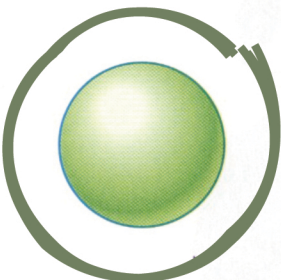
3.



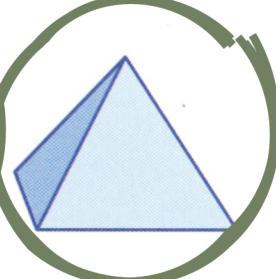
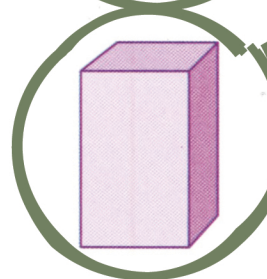
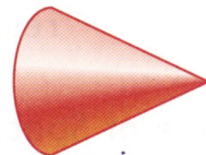
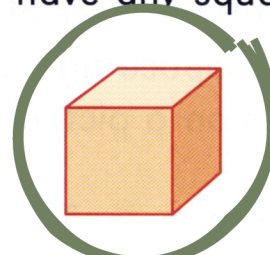
4.



5. Ring the space figures that have no corners.



6. Ring the space figures that have any square faces.

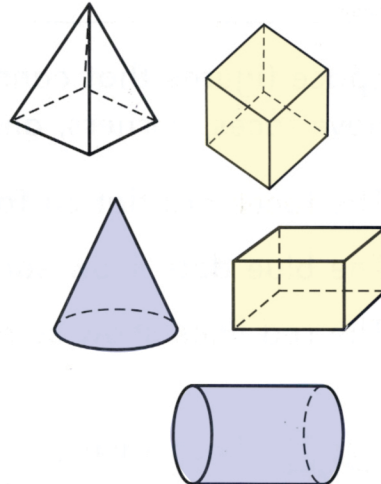


Name the Space Figure

Unit 12, Lesson 1, pp. 254



1. Which two space figures have the same number of corners? Color them yellow. Name them.

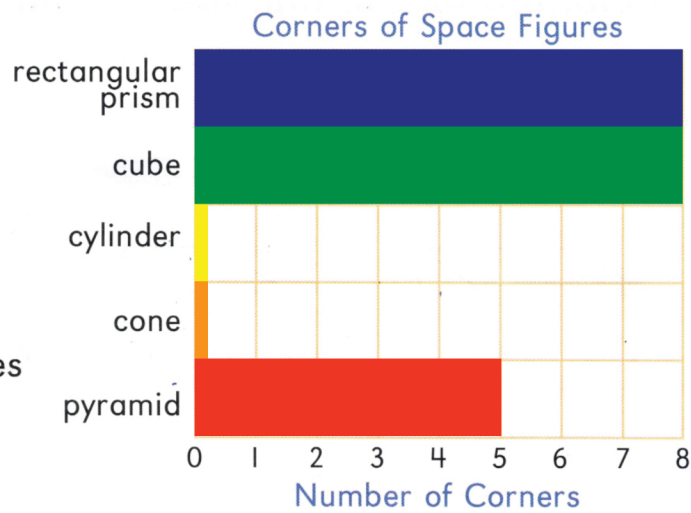


cube, rectangular prism

2. Which two space figures have no edges and no faces? Color them blue. Name them.

cone, cylinder

3. Look at the space figures above. Count and graph the number of corners in each kind of space figure.

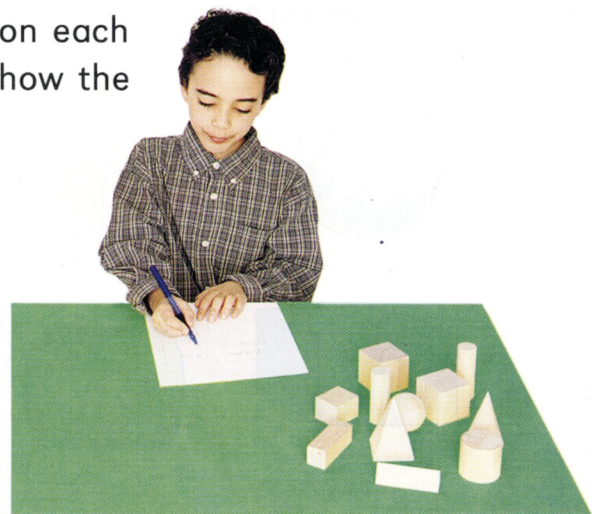


- Which space figures in the graph have the most corners?



4. Tally the number of faces on each kind of space figure and show the results on a pictograph.

Name of Space Figure	Tally

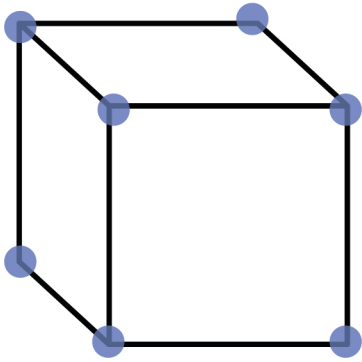


Assessment

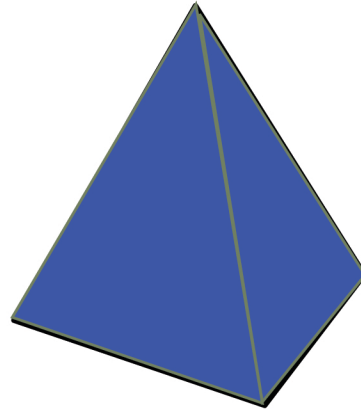
Unit 12, Lesson 2

100% A

1. Color the corners of the cube that you can see.



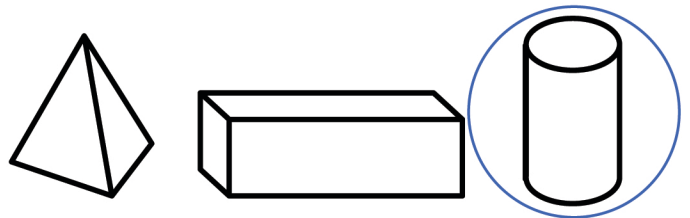
2. Color the faces of the pyramid that you can see.



3. Color the edges of the rectangular prism that can be seen.

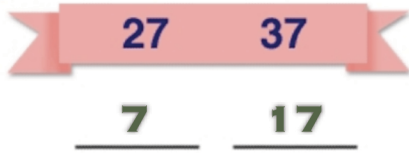


4. Ring the space figure(s) that have no corners.

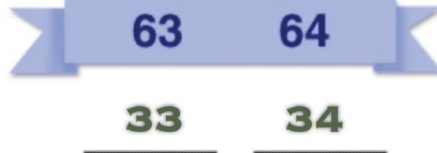


Plane Figures

Subtract 20 from 27, then subtract 20 from 37.



Subtract 30 from 63, then subtract 30 from 64.



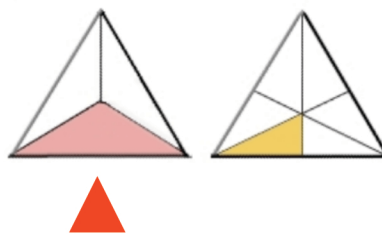
Name the amount:



About how much time does it take to shop for food?



Which figure shows one-third shaded?



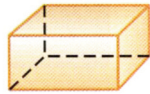
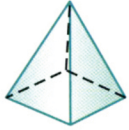
Which figure shows one-fifth shaded?



Making Plane Figures

Unit 12, Lesson 1, pp. 255

Jamal traced the 2 flat surfaces of a solid.
Which solid did he use?



1st Trace each flat surface of the solids.

2nd Complete the table.

Solid Figure	Number of Flat Surfaces	Shapes of Surfaces Traced
1. pyramid	5	
2. rectangular prism	6	
3. cylinder	2	

4. Jamal traced the 2 flat surfaces of the cylinder.



Name the shapes you traced. Were any of the flat surfaces the same shape and the same size? Which ones?

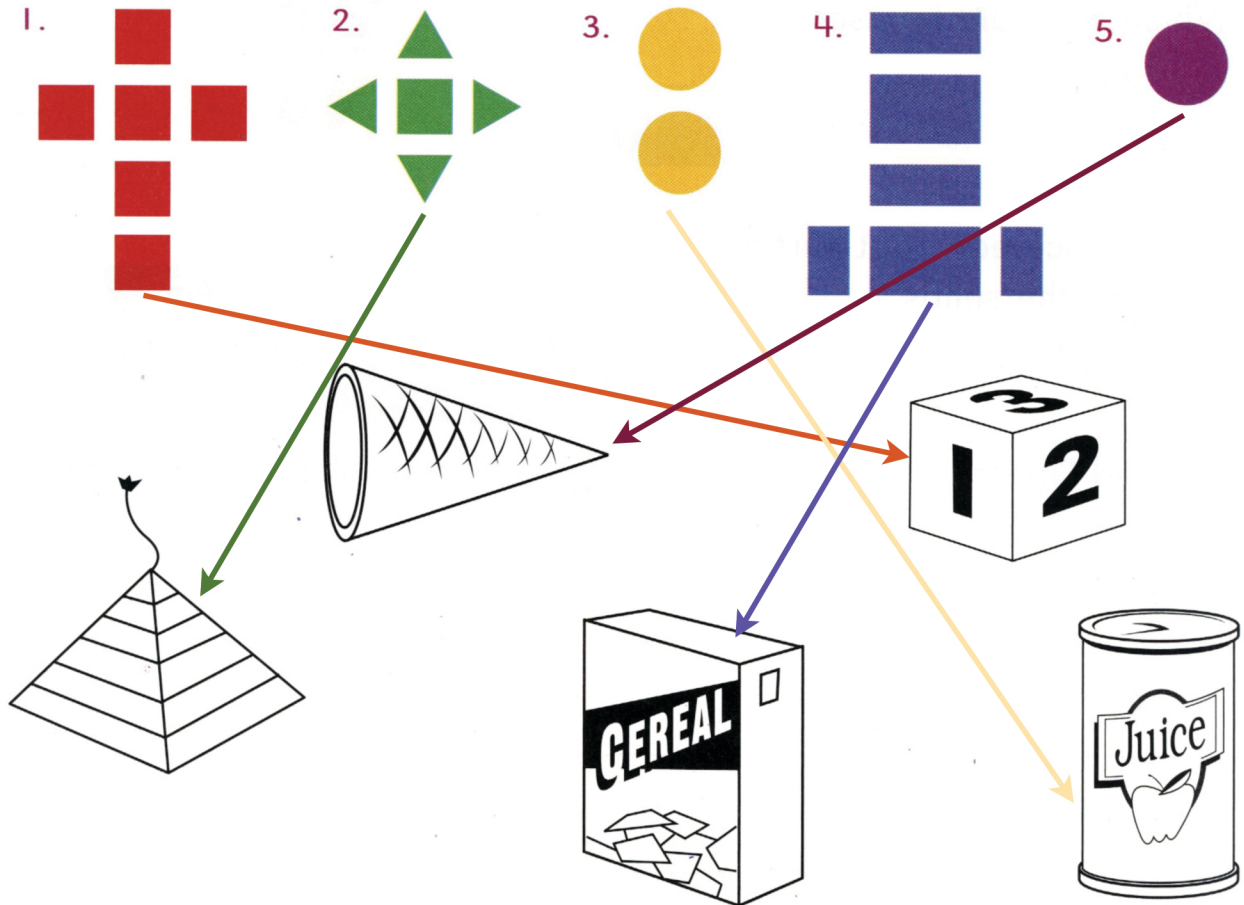
Complete the table below.

Solid Figure	Number of Flat Surfaces	Shapes of Surfaces Traced
5. cone	1	
6. cube	6	

Making Plane Figures

Unit 12, Lesson 1, pp. 256

Use these to cover the flat surfaces of one of these solids. **Use the colored arrows to match.**



Can you cover the surface of a sphere?
Why or why not?



6. Jan needs to trace a circle.
Which solid figures may she use? cylinder, cone
7. Pablo needs to trace a triangle.
What solid figure may he use? pyramid
8. Alan wants to trace a square.
What solid figures may he use? pyramid, rectangular prism, cube

Plane Figures

Unit 12, Lesson 1, pp. 257

These plane figures are closed figures.

These plane figures have curved lines.



circles

These plane figures have straight lines.



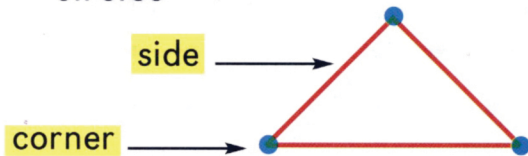
triangle



rectangle

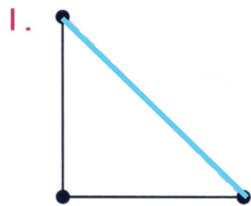


square

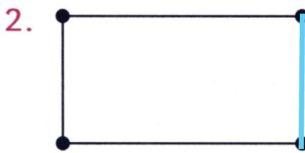


A triangle has 3 sides and 3 corners.

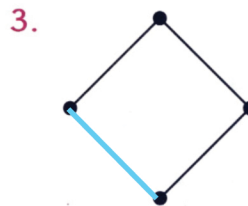
Draw a line to make a closed figure. Write its name.



triangle



rectangle



square

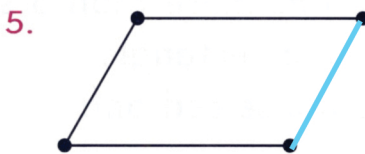
Draw a line to make a closed figure.

Write how many sides and corners.



5 sides

5 corners



4 sides

4 corners



6 sides

6 corners



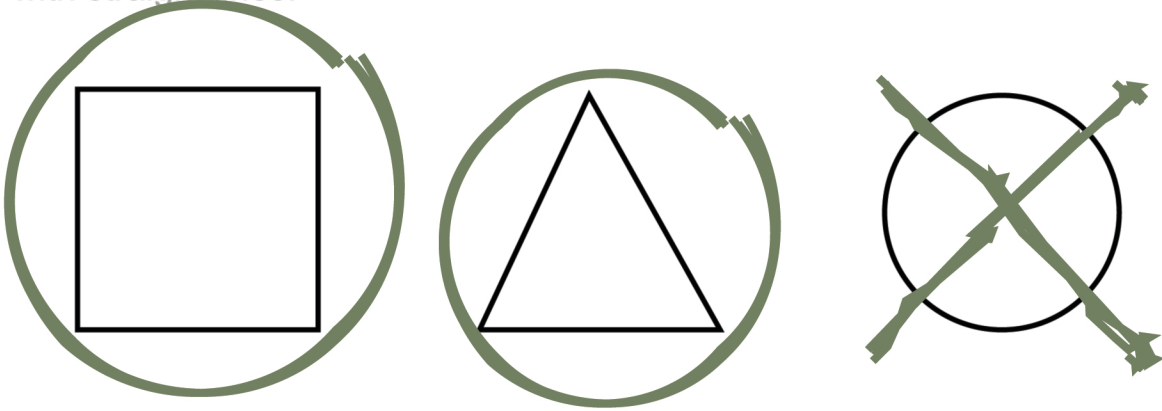
How are squares and rectangles alike?
 How are they different? Can a closed plane figure have more sides than corners? Explain.

Assessment

Unit 12, Lesson 4

100% A

1. Draw an x on the figures with curved lines. Draw rings around the figures with straight lines.

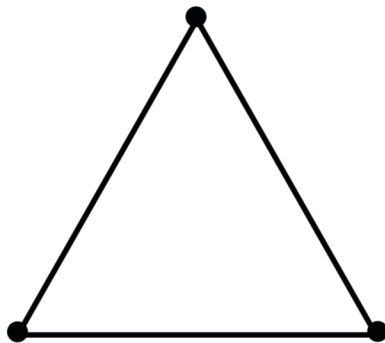


2. Write how many sides and corners the figure has.



4 Sides
4 Corners

3. Write how many sides and corners the figure has.



3 Sides
3 Corners

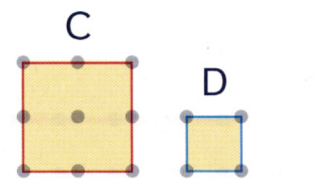
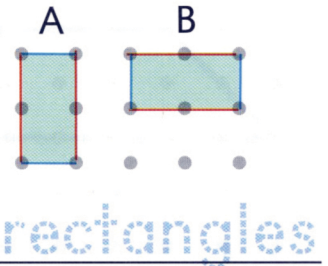
Congruent or Not

Unit 12, Lesson 5, pp. 259

Figures that are **congruent** have the **same shape** and the **same size**.

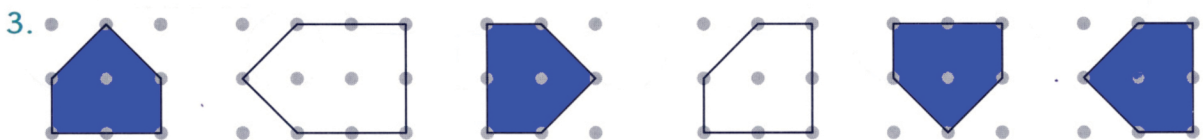
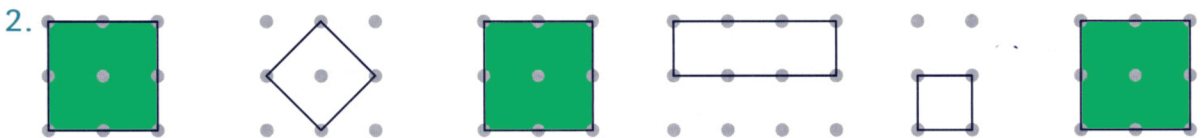
1st Name the figures.

2nd Match the sides exactly.
Use the ●—● to help.



Are figures A and B congruent?
Are figures C and D congruent?

Color figures that are congruent.



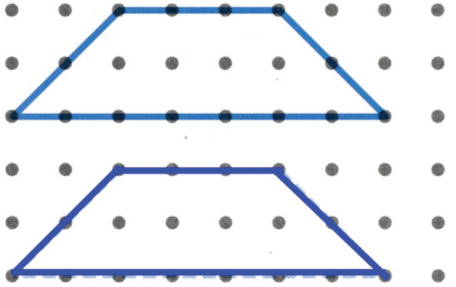
4. Draw 2 figures that are the same shape but not the same size. Are they congruent?

Congruent or Not (con't)

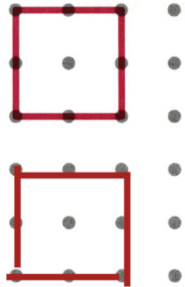
Unit 12, Lesson 5, pp. 260

Draw a figure that is the same shape and size.

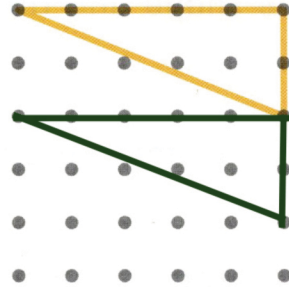
1.



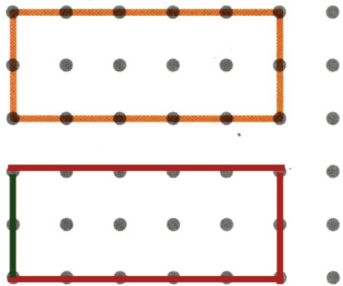
2.



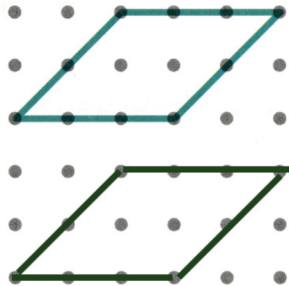
3.



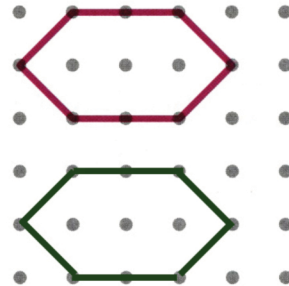
4.





5.

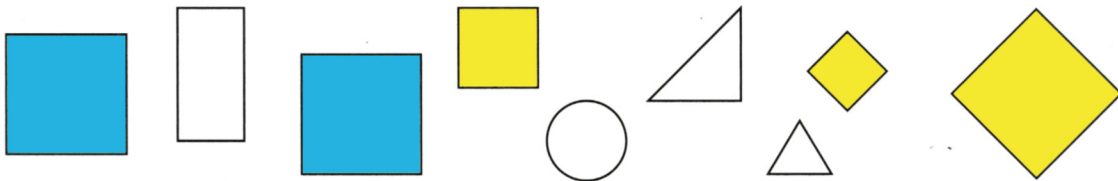


6.

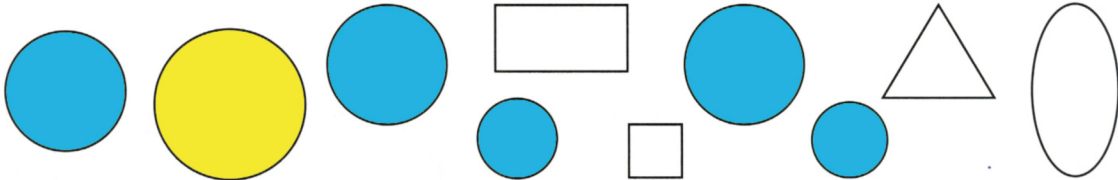


Color inside each figure that has the same shape .
Color inside those with the same size .

7.



8.

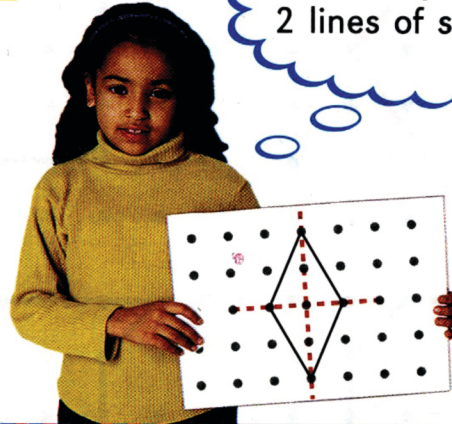
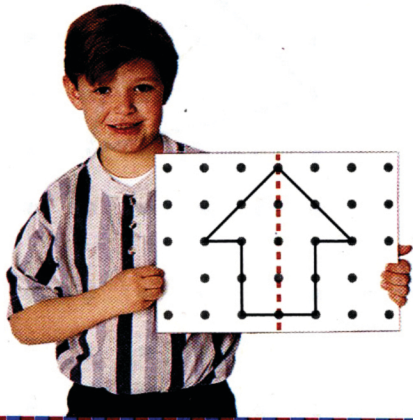


In 7 and 8 are the figures colored yellow congruent?
Why or why not?
Are the figures colored both yellow and blue congruent?
Why or why not?

Lines of Symmetry

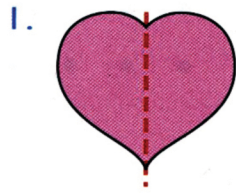
Unit 12, Lesson 6, pp. 261

The two parts match.
The fold line is a **line of symmetry**.

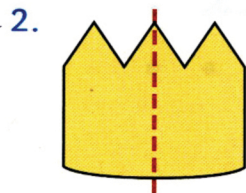


This figure has 2 lines of symmetry.

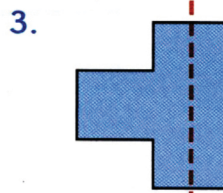
Do the two parts match? Write Yes or No.



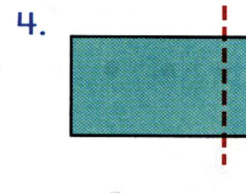
yes



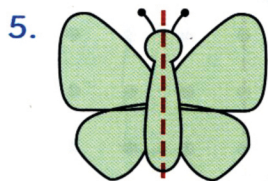
✓



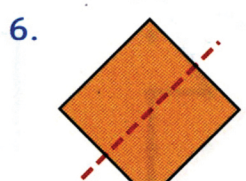
✗



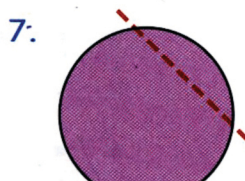
✗



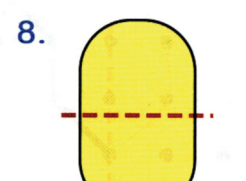
✓



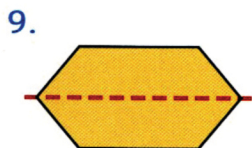
✓



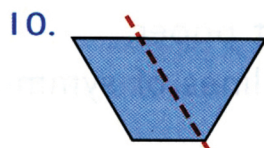
✗



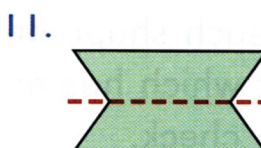
✓



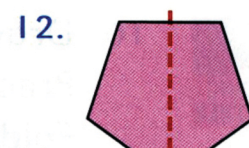
✓



✗



✓

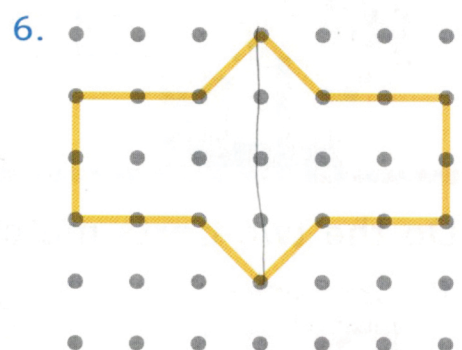
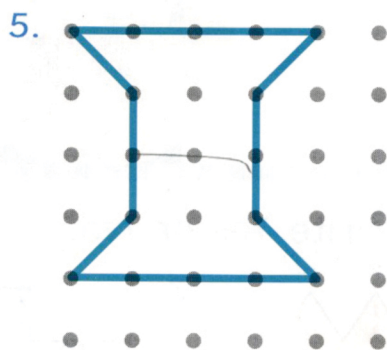
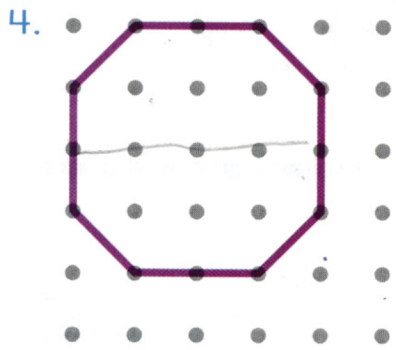
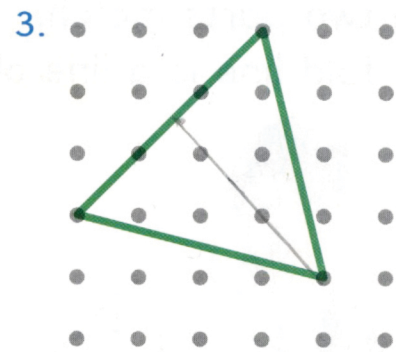
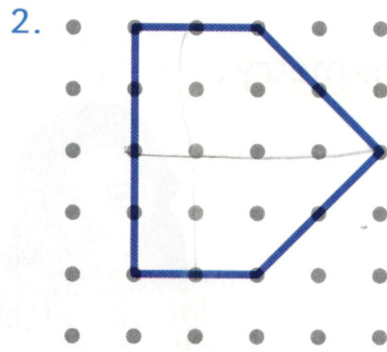
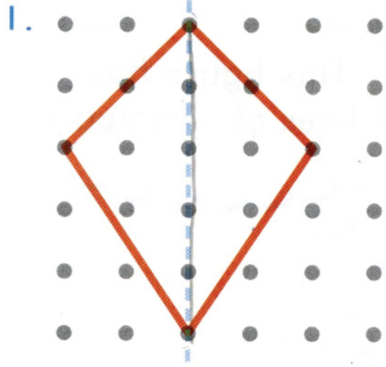


✓

Lines of Symmetry (cont.)

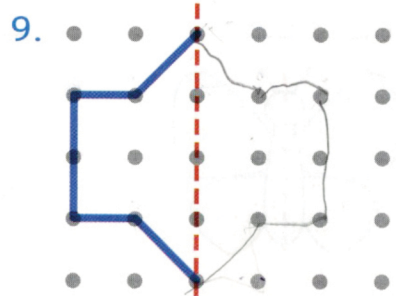
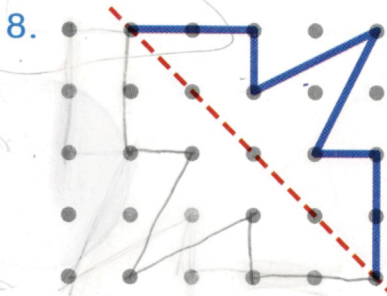
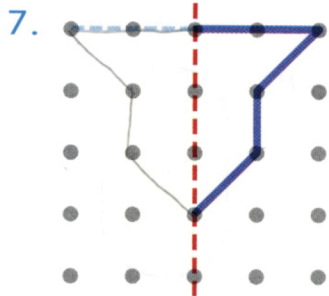
Unit 12, Lesson 6, pp. 262

Draw one line of symmetry.



CHALLENGE

Draw the matching part.



Assessment

Sides and Flips

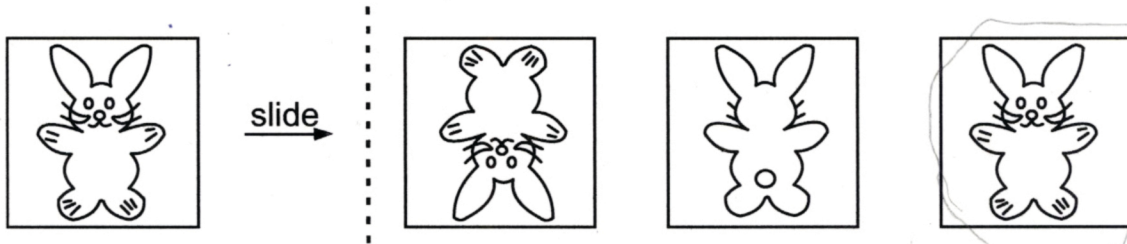
100% A

Ring the correct picture.

1.



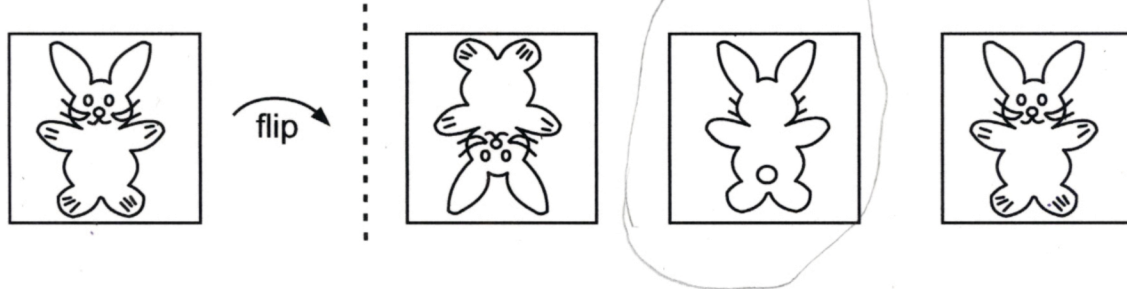
2.



3.



4.



Unit 12 Assessment

Assessment, Unit 12

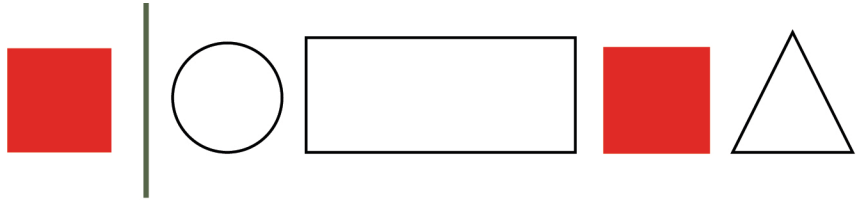
100% A

Name the figure.

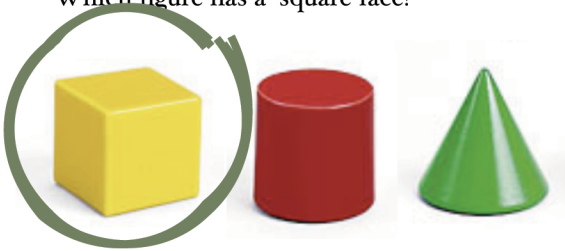


rectangle

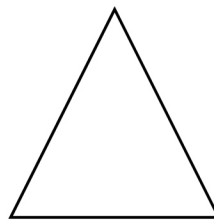
Color the same shape.



Which figure has a square face?



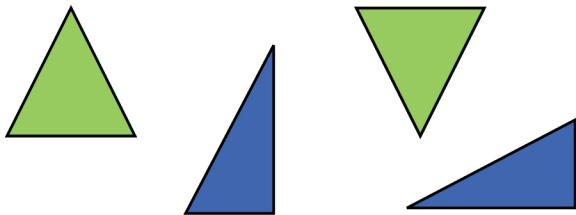
Write how many sides and corners.



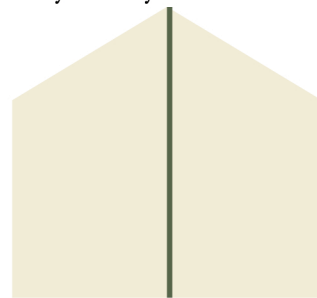
3 sides

3 corners

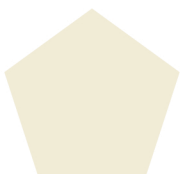
Color the congruent figures.



Draw one line of symmetry.



How many corners does this object have?



5 corners

Which figure does NOT show a line of symmetry?

