EUREKA MATH PUSD

A Story of Units

Pleasanton UNIFIED SCHOOL DISTRICT Mathematics Curriculum

Grade 2 • MODULE 8

Time, Shapes, and Fractions as Equal Parts of Shapes

PROBLEM SETS

Video tutorials: http://embarc.online
Info for parents: http://bit.ly/pusdmath

Version 3

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GRADE 2 • MODULE 8

Time, Shapes, and Fractions as Equal Parts of Shapes

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NOTE: Student sheets should be printed at 100% scale to preserve the intended size of figures for accurate measurements. Adjust copier or printer settings to *actual size* and set page scaling to *none*.

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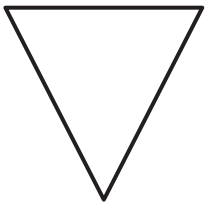
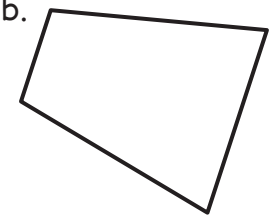
Name _____ Date _____

1. Identify the number of sides and angles for each shape. Circle each angle as you count, if needed. The first one has been done for you.

a. 

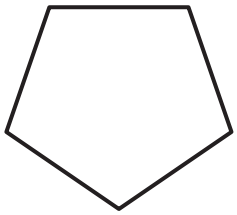
3 sides

3 angles

b. 

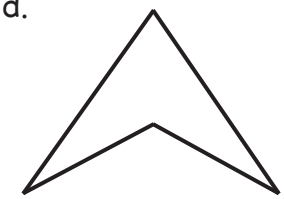
_____ sides

_____ angles

c. 

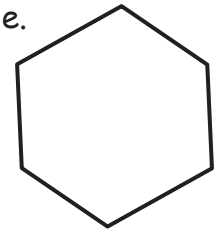
_____ sides

_____ angles

d. 

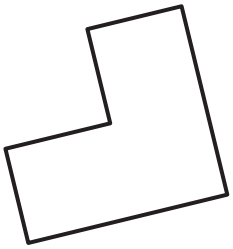
_____ sides

_____ angles

e. 

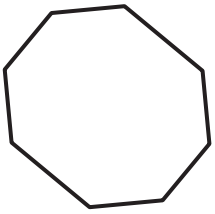
_____ sides

_____ angles

f. 

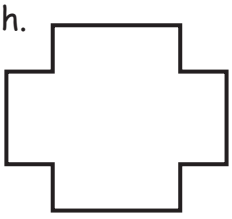
_____ sides

_____ angles

g. 

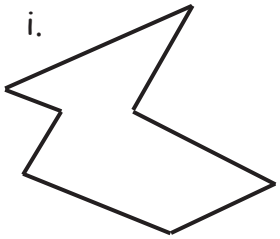
_____ sides

_____ angles

h. 

_____ sides

_____ angles

i. 

_____ sides

_____ angles

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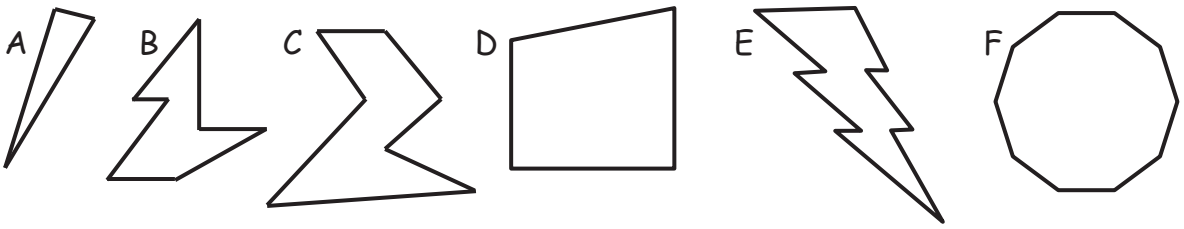
2. Study the shapes below. Then, answer the questions.



a. Which shape has the most sides? _____

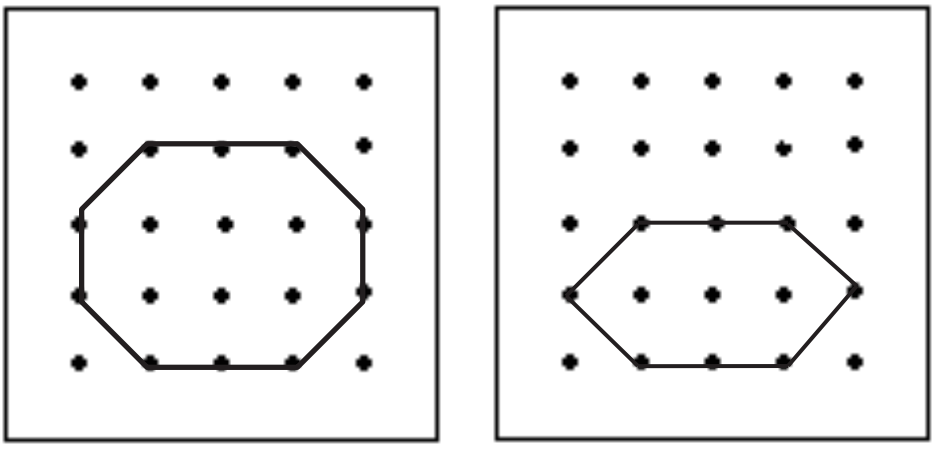
b. Which shape has 3 more angles than shape C? _____

c. Which shape has 3 fewer sides than shape B? _____

d. How many more angles does shape C have than shape A? _____

e. Which of these shapes have the same number of sides and angles? _____

3. Ethan said the two shapes below are both six-sided figures but just different sizes. Explain why he is incorrect.



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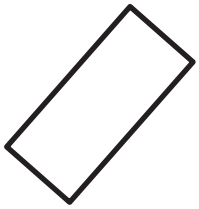
Name _____ Date _____

1. Count the number of sides and angles for each shape to identify each polygon. The polygon names in the word bank may be used more than once.

Hexagon	Quadrilateral	Triangle	Pentagon

a. 

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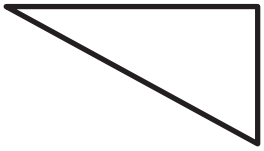
b. 

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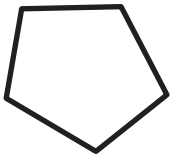
c. 

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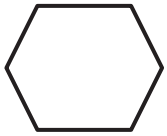
d. 

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e.

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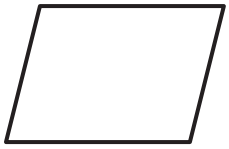
f.

_____

g. 

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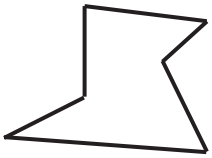
h. 

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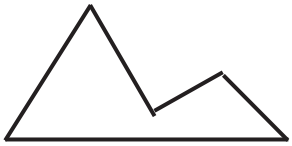
i. 

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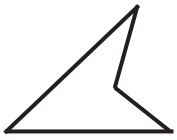
j. 

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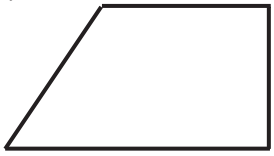
k. 

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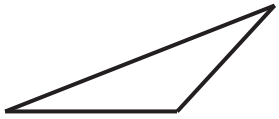
l. 

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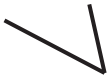
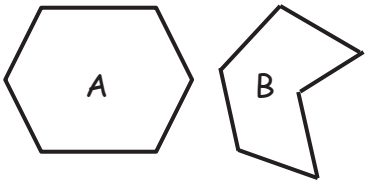
2. Draw more sides to complete 2 examples of each polygon.

	Example 1	Example 2
a. **Triangle** For each example, ___ line was added. A triangle has ___ total sides.		
b. **Hexagon** For each example, ___ lines were added. A hexagon has ___ total sides.		
c. **Quadrilateral** For each example, ___ lines were added. A quadrilateral has ___ total sides.		
d. **Pentagon** For each example, ___ lines were added. A pentagon has ___ total sides.		

3. a. Explain why both polygons A and B are hexagons.



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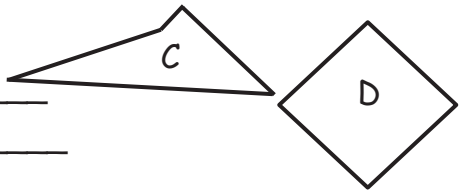
b. Draw a different hexagon than the two that are shown.

4. Explain why both polygons C and D are quadrilaterals.



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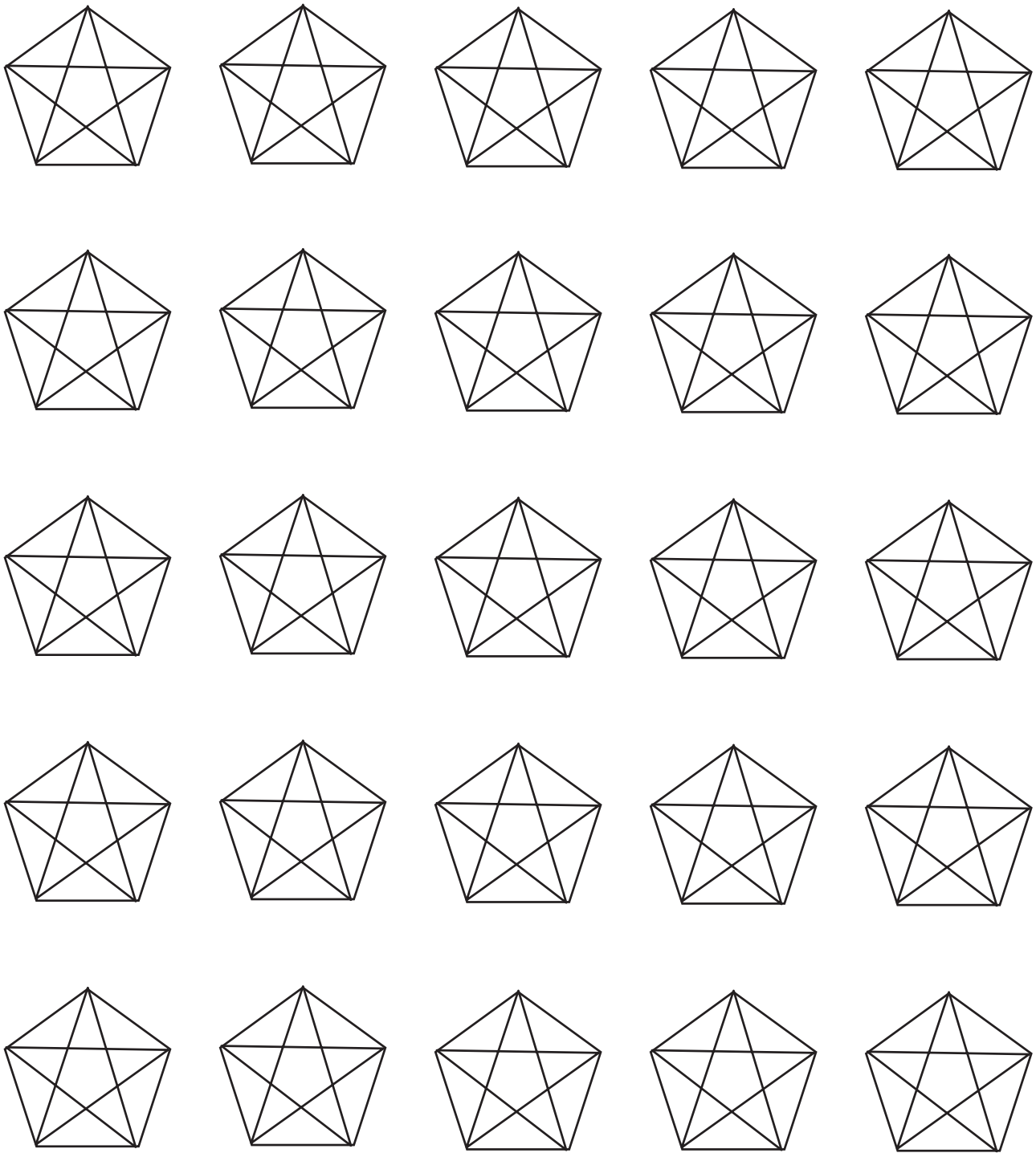

find the triangles

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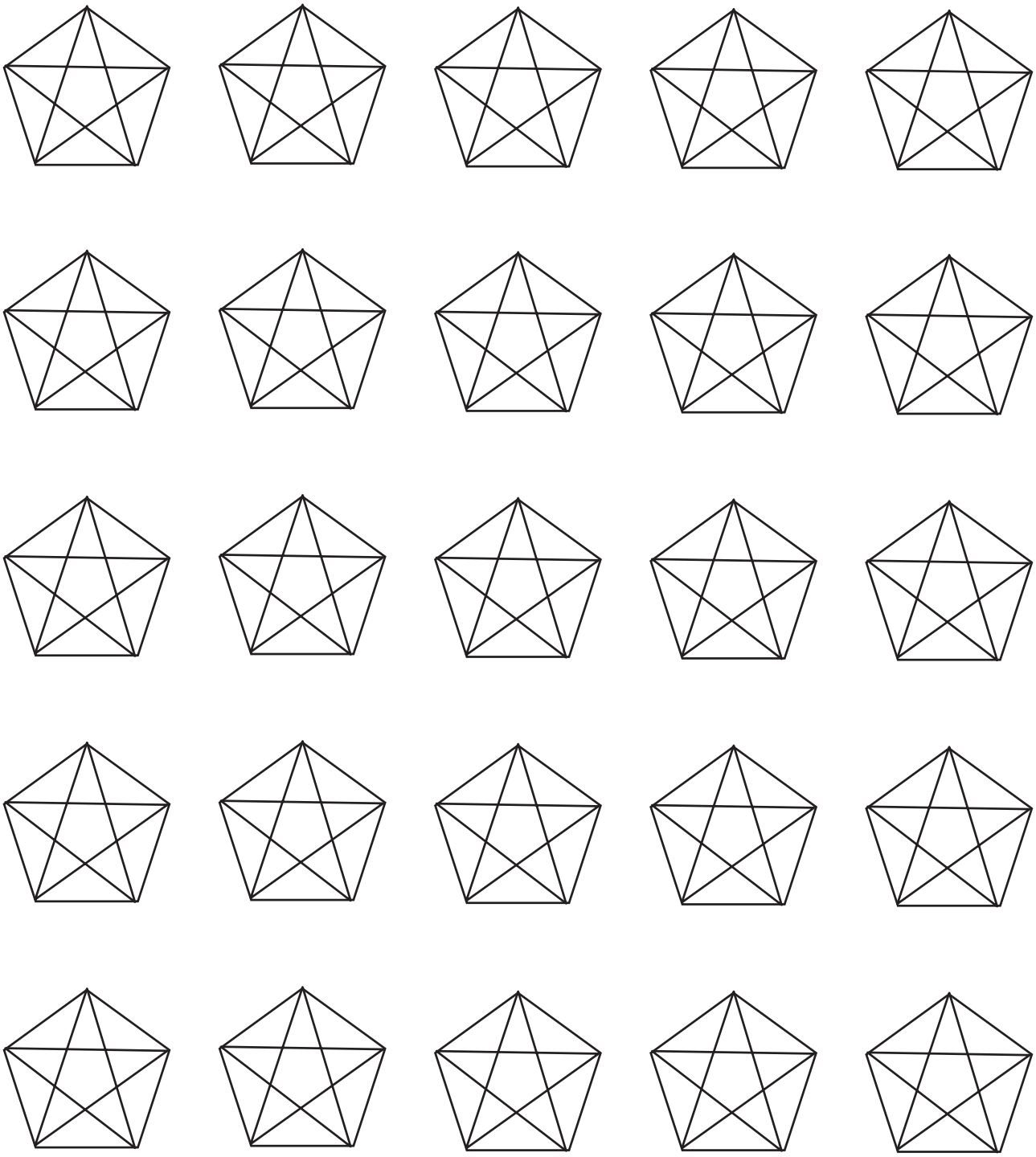

find the triangles

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Name _____ Date _____

1. Use a straightedge to draw the polygon with the given attributes in the space to the right.
   a. Draw a polygon with 3 angles.
      Number of sides: _____
      Name of polygon: _____
   b. Draw a five-sided polygon.
      Number of angles: _____
      Name of polygon: _____
   c. Draw a polygon with 4 angles.
      Number of sides: _____
      Name of polygon: _____
   d. Draw a six-sided polygon.
      Number of angles: _____
      Name of polygon: _____
   e. Compare your polygons to those of your partner.
      Copy one example that is very different from your own in the space to the right.

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2. Use your straightedge to draw 2 new examples of each polygon that are different from those you drew on the first page.

a. Triangle

b. Pentagon

c. Quadrilateral

d. Hexagon

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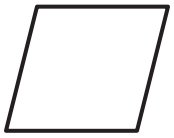
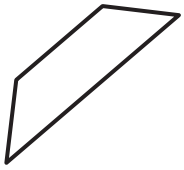
Name _____ Date _____

1. Use your ruler to draw 2 parallel lines that are not the same length.

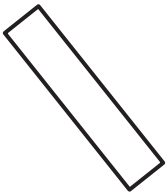
2. Use your ruler to draw 2 parallel lines that are the same length.

3. Trace the parallel lines on each quadrilateral using a crayon. For each shape with two sets of parallel lines, use two different colors. Use your index card to find each square corner, and box it.

a. 

b. 

c.

d. 

e.

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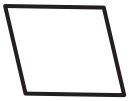
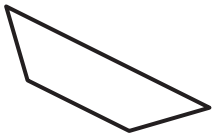
g. 

h. 

4. Draw a parallelogram with no square corners.

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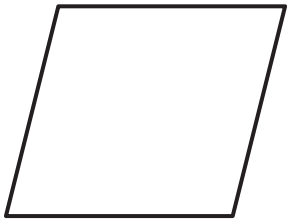
5. Draw a quadrilateral with 4 square corners.

6. Measure and label the sides of the figure to the right with your centimeter ruler. What do you notice? Be ready to talk about the attributes of this quadrilateral. Can you remember what this polygon is called?



7. A square is a special rectangle. What makes it special?

_____

_____

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Name _____ Date _____

1. Circle the shape that could be the face of a cube.

2. What is the most precise name of the shape you circled? _____
3. How many faces does a cube have? _____
4. How many edges does a cube have? _____
5. How many corners does a cube have? _____
6. Draw 6 cubes, and put a star next to your best one.

First cube	Second cube
Third cube	Fourth cube
Fifth cube	Sixth cube

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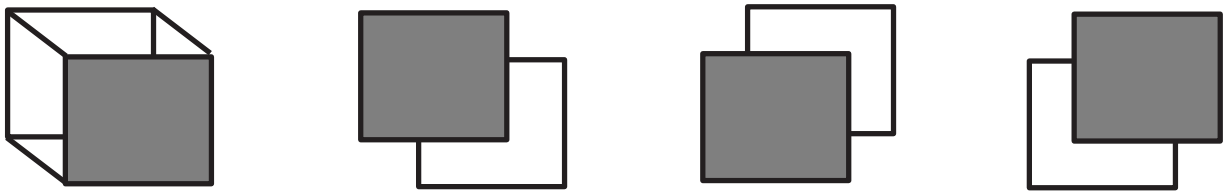
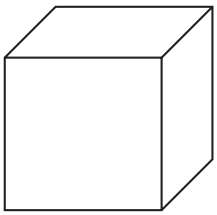
7. Connect the corners of the squares to make a different kind of drawing of a cube. The first one is done for you.



8. Derrick looked at the cube below. He said that a cube only has 3 faces. Explain why Derrick is incorrect.



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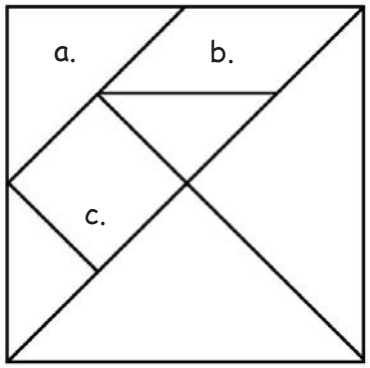
Name _____ Date _____

1. Identify each polygon labeled in the tangram as precisely as possible in the space below.



a. _____

b. _____

c. _____

2. Use the square and the two smallest triangles to make the following polygons. Draw them in the space provided.

a. A quadrilateral with 1 pair of parallel sides.	b. A quadrilateral with no square corners.
c. A quadrilateral with 4 square corners.	d. A triangle with 1 square corner.

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3. Use the parallelogram and the two smallest triangles to make the following polygons. Draw them in the space provided.

a. A quadrilateral with 1 pair of parallel sides.	b. A quadrilateral with no square corners.
c. A quadrilateral with 4 square corners.	d. A triangle with 1 square corner.

4. Rearrange the parallelogram and the two smallest triangles to make a hexagon. Draw the new shape below.

5. Rearrange your tangram pieces to make other polygons! Identify them as you work.

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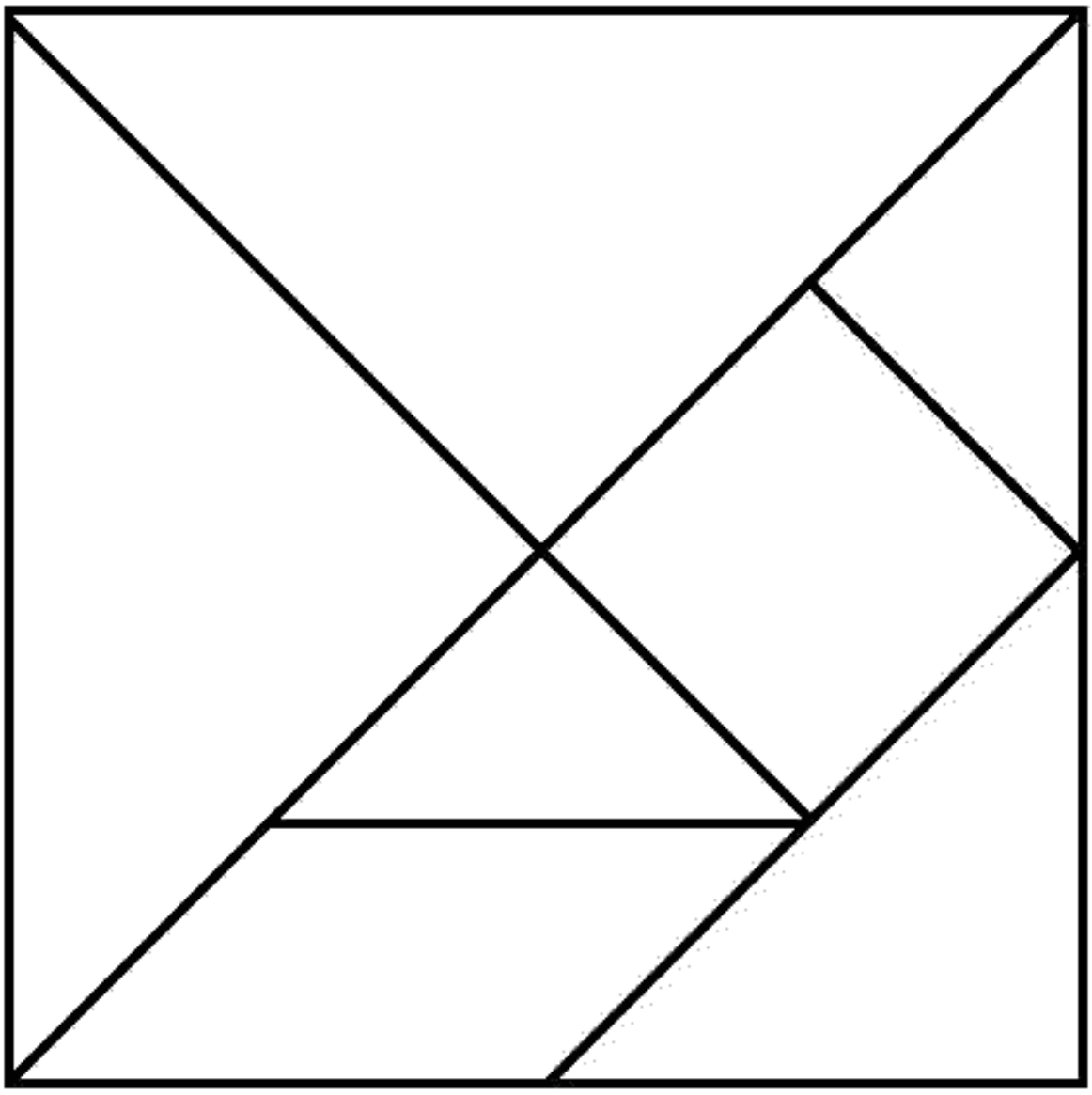
Cut out the tangram into 7 puzzle pieces.



tangram

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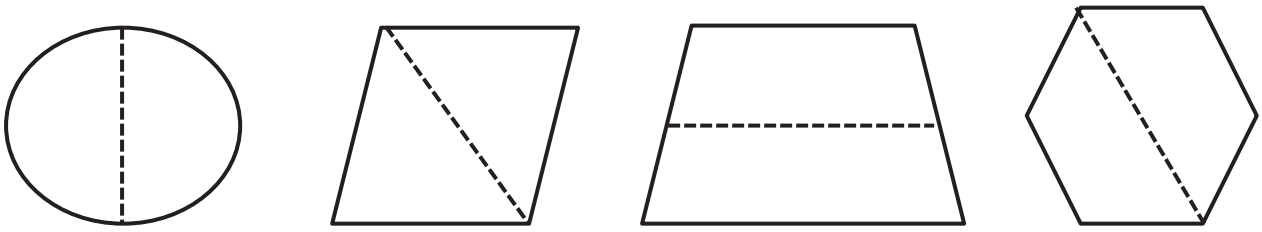
Name _____ Date _____

1. Solve the following puzzles using your tangram pieces. Draw your solutions in the space below.

a. Use the two smallest triangles to make one larger triangle.	b. Use the two smallest triangles to make a parallelogram with no square corners.
c. Use the two smallest triangles to make a square.	d. Use the two largest triangles to make a square.
e. How many equal shares do the larger shapes in Parts (a–d) have?	f. How many halves make up the larger shapes in Parts (a–d)?

2. Circle the shapes that show halves.



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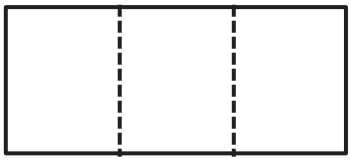
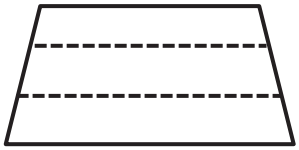
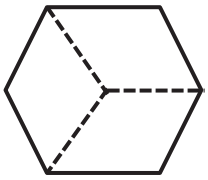
3. Show how 3 triangle pattern blocks form a trapezoid with one pair of parallel lines. Draw the shape below.

   a. How many equal shares does the trapezoid have? _____

   b. How many thirds are in the trapezoid? _____

4. Circle the shapes that show thirds.

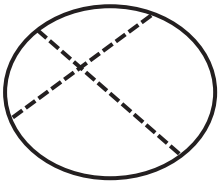
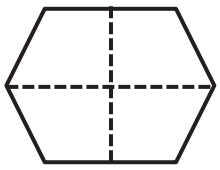
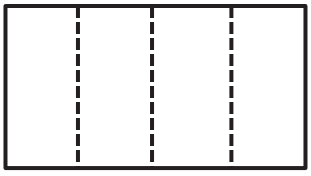




5. Add another triangle to the trapezoid you made in Problem 3 to make a parallelogram. Draw the new shape below.

   a. How many equal shares does the shape have now? _____

   b. How many fourths are in the shape? _____

6. Circle the shapes that show fourths.

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Name _____ Date _____

1. Use one pattern block to cover half the rhombus.
   a. Identify the pattern block used to cover half of the rhombus. _____
   b. Draw a picture of the rhombus formed by the 2 halves.

2. Use one pattern block to cover half the hexagon.
   a. Identify the pattern block used to cover half of a hexagon. _____
   b. Draw a picture of the hexagon formed by the 2 halves.

3. Use one pattern block to cover 1 third of the hexagon.
   a. Identify the pattern block used to cover 1 third of a hexagon. _____
   b. Draw a picture of the hexagon formed by the 3 thirds.

4. Use one pattern block to cover 1 third of the trapezoid.
   a. Identify the pattern block used to cover 1 third of a trapezoid. _____
   b. Draw a picture of the trapezoid formed by the 3 thirds.

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5. Use 4 pattern block squares to make one larger square.
   a. Draw a picture of the square formed in the space below.

   b. Shade 1 small square. Each small square is 1 _____ (half / third / fourth) of the whole square.

   c. Shade 1 more small square. Now, 2 _____ (halves / thirds / fourths) of the whole square is shaded.

   d. And 2 fourths of the square is the same as 1 _____ (half / third / fourth) of the whole square.

   e. Shade 2 more small squares. ____ fourths is equal to 1 whole.

6. Use one pattern block to cover 1 sixth of the hexagon.
   a. Identify the pattern block used to cover 1 sixth of a hexagon. _____
   b. Draw a picture of the hexagon formed by the 6 sixths.

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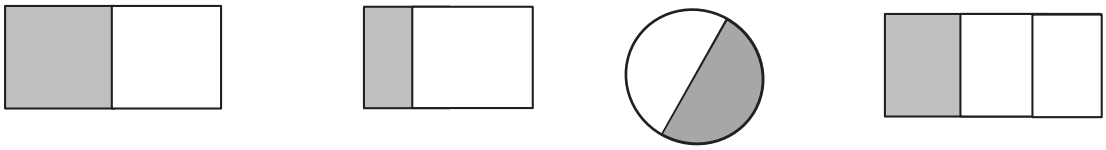
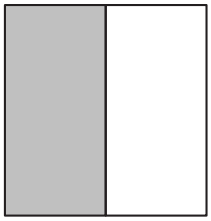
Name _____ Date _____

1. Circle the shapes that have 2 equal shares with 1 share shaded.

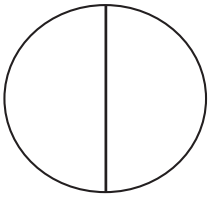


2. Shade 1 half of the shapes that are split into 2 equal shares. One has been done for you.

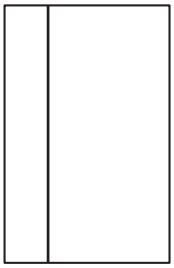
a.



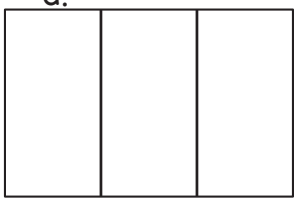
b.



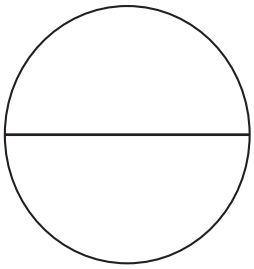
c.



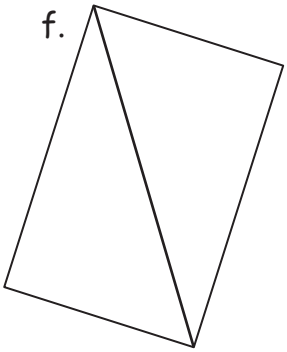
d.



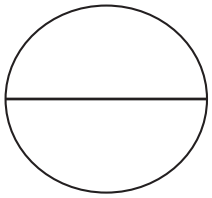
e.



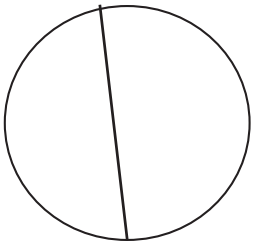
f.



g.

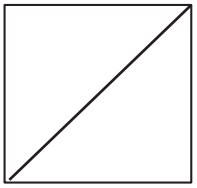


h.

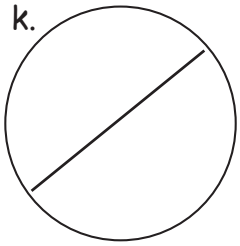


i.

j.



k.



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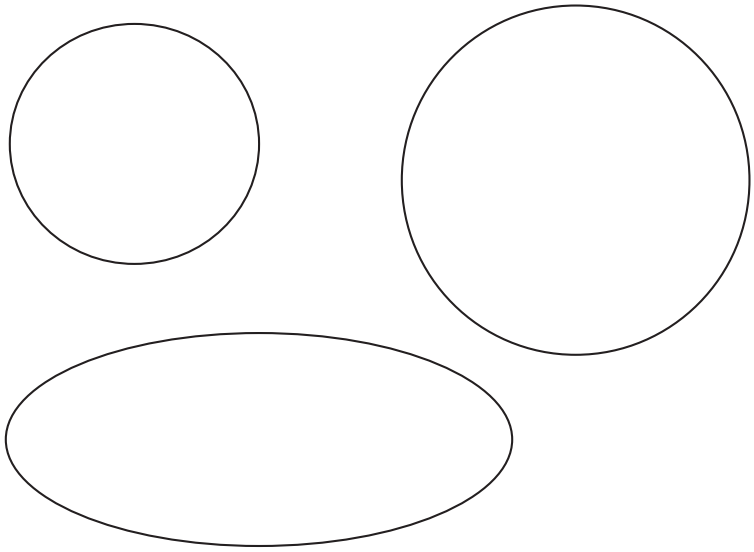
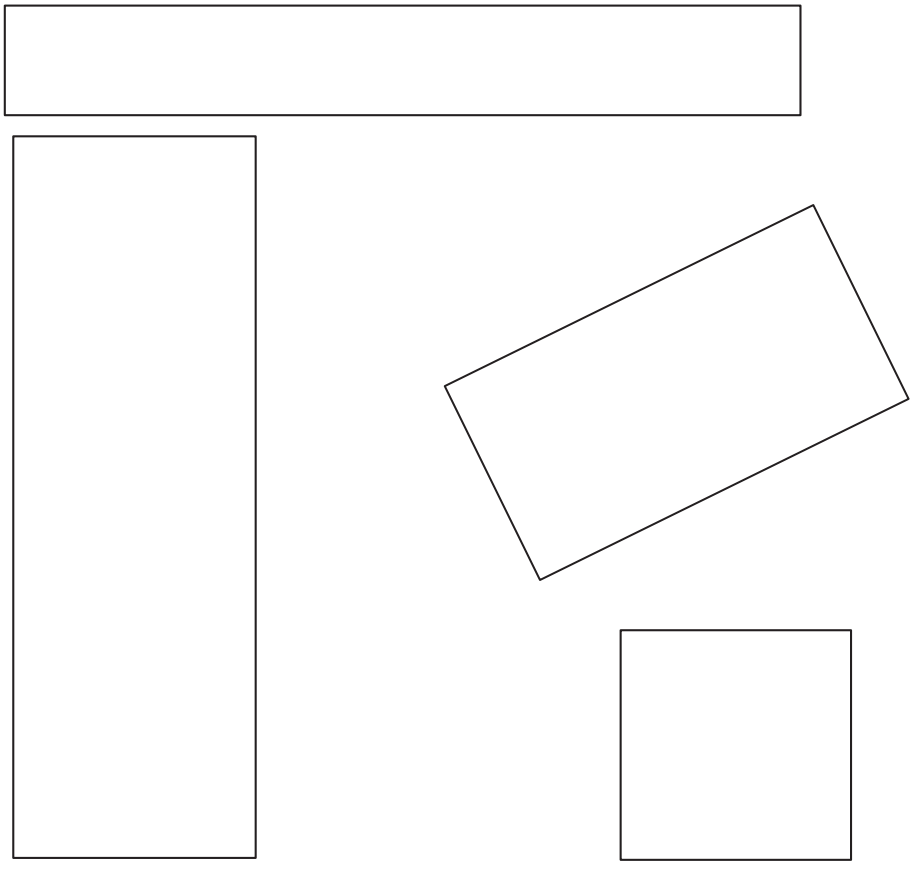
3. Partition the shapes to show halves. Shade 1 half of each. Compare your halves to your partner's.

a.



b.



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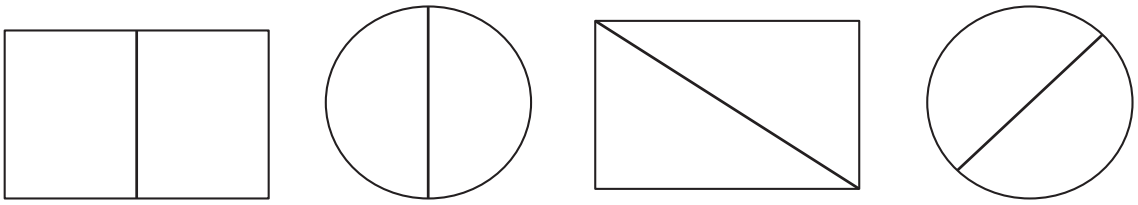
Name _____ Date _____

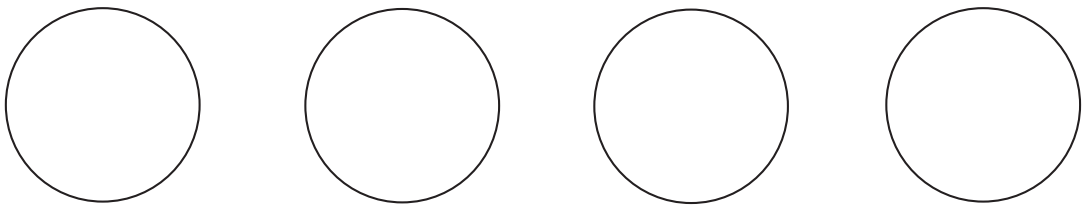
1. Do the shapes in Problem 1(a) show halves or thirds? _____
   a. Draw 1 more line to partition each shape into fourths.



2. Partition each rectangle into thirds. Then, shade the shapes as indicated.

3 thirds 2 thirds 1 third

3. Partition each circle into fourths. Then, shade the shapes as indicated.



4 fourths 3 fourths 2 fourths 1 fourth

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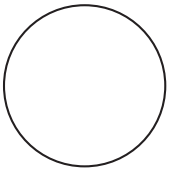
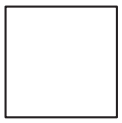
4. Partition and shade the following shapes as indicated. Each rectangle or circle is one whole.

a. 1 fourth

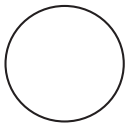
b. 1 third



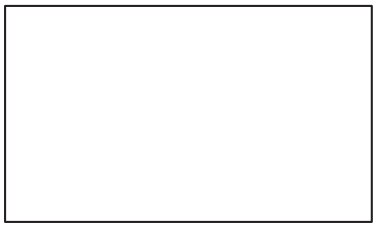
c. 1 half



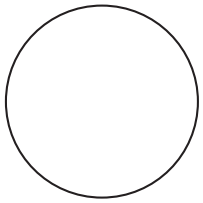
d. 2 fourths



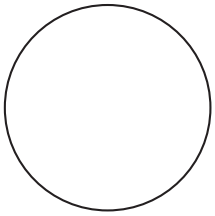
e. 2 thirds



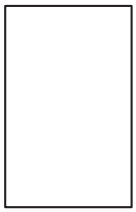
f. 2 halves



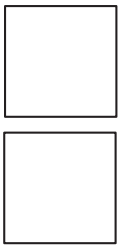
g. 3 fourths



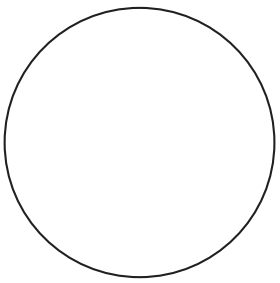
h. 3 thirds



i. 3 halves



5. Split the pizza below so that Maria, Paul, Jose, and Mark each have an equal share. Label each student's share with his or her name.



a. What fraction of the pizza was eaten by each of the boys?

b. What fraction of the pizza did the boys eat altogether?

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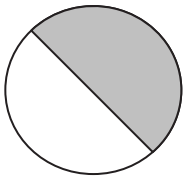
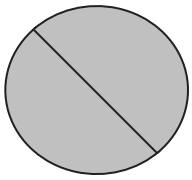
Name _____ Date _____

1. For Parts (a), (c), and (e), identify the shaded area.

a.



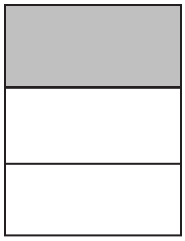
_____ half



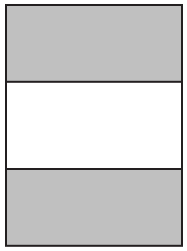
_____ halves

b. Circle the shape above that has a shaded area that shows 1 whole.

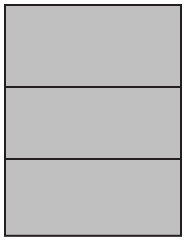
c.



_____ third



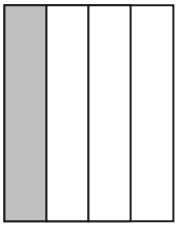
_____ thirds



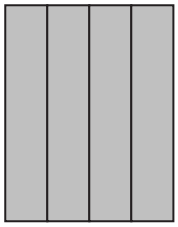
_____ thirds

d. Circle the shape above that has a shaded area that shows 1 whole.

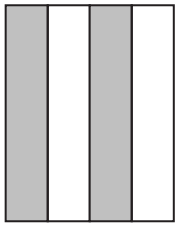
e.



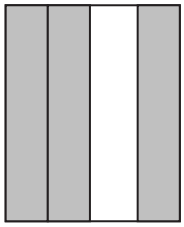
_____ fourth



_____ fourths



_____ fourths



_____ fourths

f. Circle the shape above that has a shaded area that shows 1 whole.

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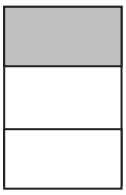
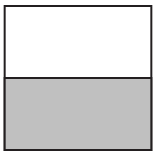
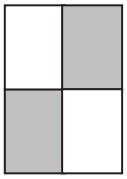
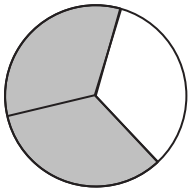
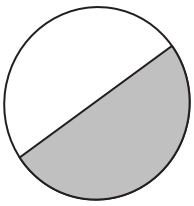
2. What fraction do you need to color so that 1 whole is shaded?

a. 

b. 

c. 

d. 

e. 

f.

3. Complete the drawing to show 1 whole.

a. This is 1 half.
Draw 1 whole.

b. This is 1 third.
Draw 1 whole.

c. This is 1 fourth.
Draw 1 whole.

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Name _____ Date _____

1. Partition the rectangles in 2 different ways to show equal shares.

   a. 2 halves

   b. 3 thirds

   c. 4 fourths

2. Build the original whole square using the rectangle half and the half represented by your 4 small triangles. Draw it in the space below.

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3. Use different colored halves of a whole square.
   a. Cut the square in half to make 2 equal size rectangles.
   b. Rearrange the halves to create a new rectangle with no gaps or overlaps.
   c. Cut each equal part in half to make 4 equal size squares.
   d. Rearrange the new equal shares to create different polygons.
   e. Draw one of your new polygons from Part (d) below.

Extension

4. Cut out the circle.
   a. Cut the circle in half.
   b. Rearrange the halves to create a new shape with no gaps or overlaps.
   c. Cut each equal share in half.
   d. Rearrange the equal shares to create a new shape with no gaps or overlaps.
   e. Draw your new shape from Part (d) below.

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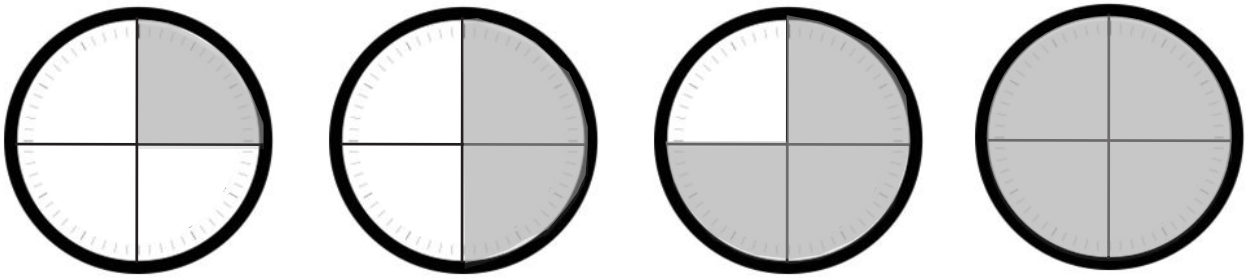
Name _____ Date _____

1. Tell what fraction of each clock is shaded in the space below using the words *quarter, quarters, half,* or *halves.*



_____ _____ _____ _____

2. Write the time shown on each clock.

a.

_____

b.

_____

c.

_____

d.

_____

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3. Match each time to the correct clock by drawing a line.

- Quarter to 4
- Half past 8
- 8:30
- 3:45
- 1:15

4. Draw the minute hand on the clock to show the correct time.

3:45

11:30

6:15

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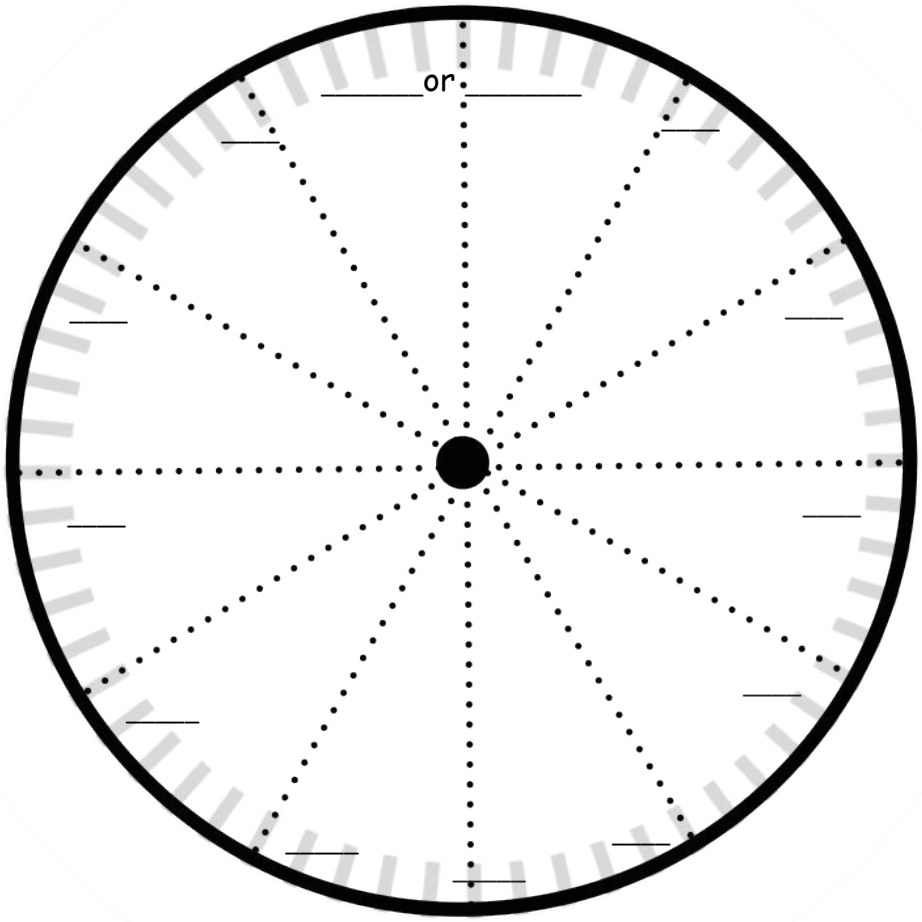
Name _____ Date _____

1. Fill in the missing numbers.

60, 55, 50, ____, 40, ____, _____, _____, 20, ____, _____, _____, ____

2. Fill in the missing numbers on the face of the clock to show the minutes.



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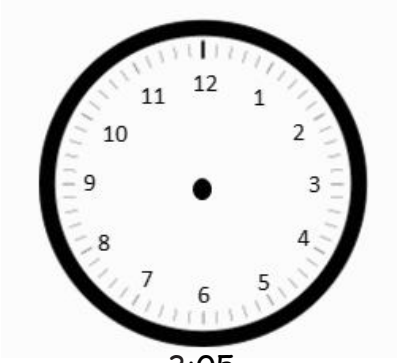
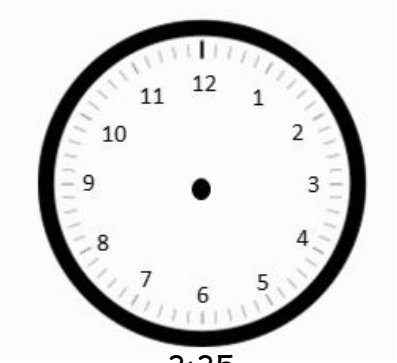
3. Draw the hour and minute hands on the clocks to match the correct time.


3:05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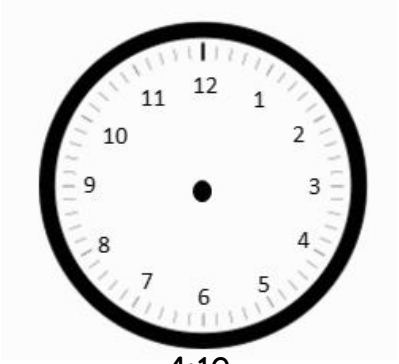
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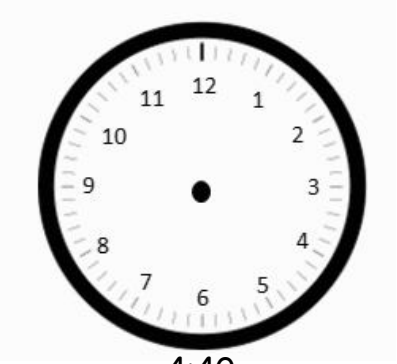
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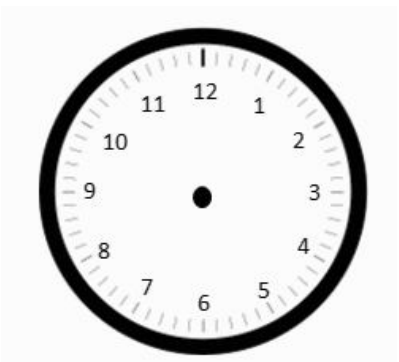
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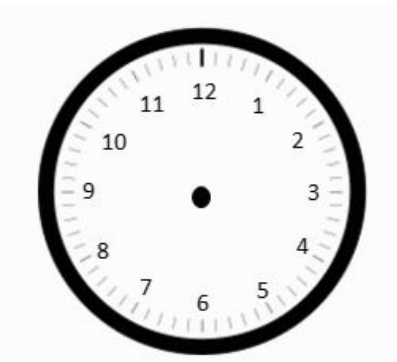
6:55

4. What time is it?

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Name _____ Date _____

1. Decide whether the activity below would happen in the a.m. or the p.m. Circle your answer.

   a. Waking up for school **a.m. / p.m.**

   b. Eating dinner **a.m. / p.m.**

   c. Reading a bedtime story **a.m. / p.m.**

   d. Making breakfast **a.m. / p.m.**

   e. Having a play date after school **a.m. / p.m.**

   f. Going to bed **a.m. / p.m.**

   g. Eating a piece of cake **a.m. / p.m.**

   h. Eating lunch **a.m. / p.m.**

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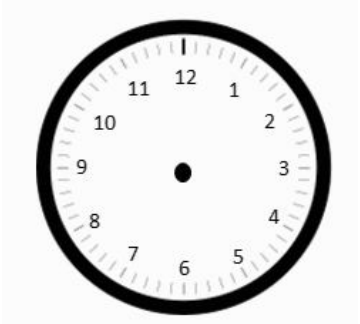
2. Draw the hands on the analog clock to match the time on the digital clock. Then, circle **a.m. or p.m.** based on the description given.

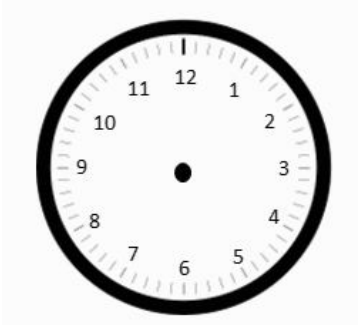
   a. Brushing your teeth after you wake up

   7:10 **a.m. or p.m.**



   b. Finishing homework

   5:55 **a.m. or p.m.**



3. Write what you might be doing if it were **a.m. or p.m.**

   a. **a.m.** _____

   b. **p.m.** _____

4. What time does the clock show?

   _____ : _____

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Name _____ Date _____

1. How much time has passed?

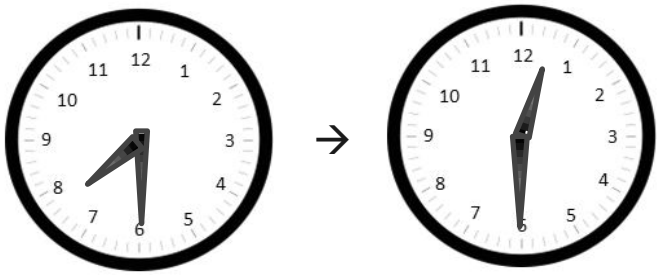
   a. 6:30 a.m. → 7:00 a.m. _____

   b. 4:00 p.m. → 9:00 p.m. _____

   c. 11:00 a.m. → 5:00 p.m. _____

   d. 3:30 a.m. → 10:30 a.m. _____

   e. 7:00 p.m. → 1:30 a.m. _____

   f. 

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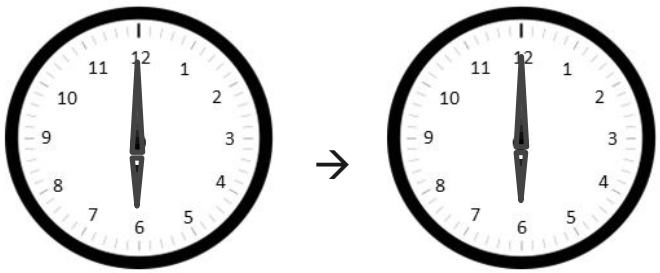
   g. 

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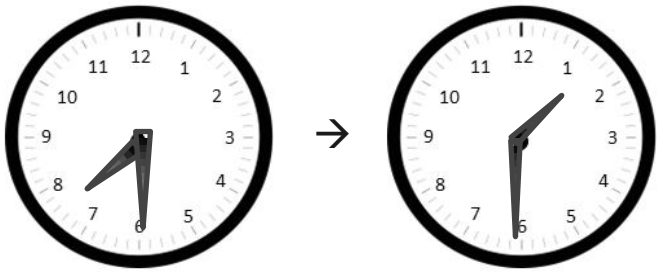
   h. 

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2. Solve.

   a. Tracy arrives at school at 7:30 a.m. She leaves school at 3:30 p.m. How long is Tracy at school?

   b. Anna spent 3 hours at dance practice. She finished at 6:15 p.m. What time did she start?

   c. Andy finished baseball practice at 4:30 p.m. His practice was 2 hours long. What time did his baseball practice start?

   d. Marcus took a road trip. He left on Monday at 7:00 a.m. and drove until 4:00 p.m. On Tuesday, Marcus drove from 6:00 a.m. to 3:30 p.m. How long did he drive on Monday and Tuesday?

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Video tutorials: http://bit.ly/eurekapusd
Info for parents: http://bit.ly/pusdmath