

# Eureka Math™

## Grade 4, Module 4

### Student File\_B

*Contains Sprint and Fluency, Exit Ticket,  
and Assessment Materials*

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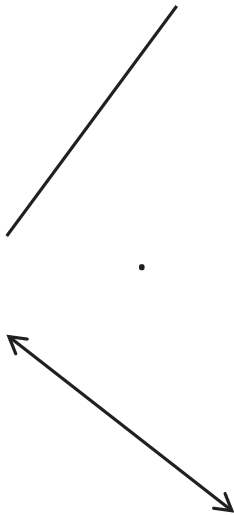
10 9 8 7 6 5 4 3 2 1

# Exit Ticket Packet

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Draw a line segment to connect the word to its picture.



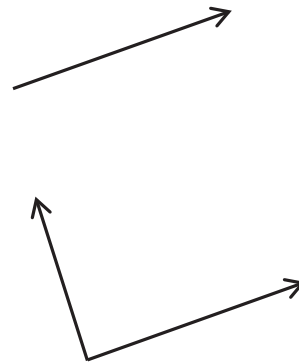
Ray

Line

Line segment

Point

Angle



2. How is a line different from a line segment?

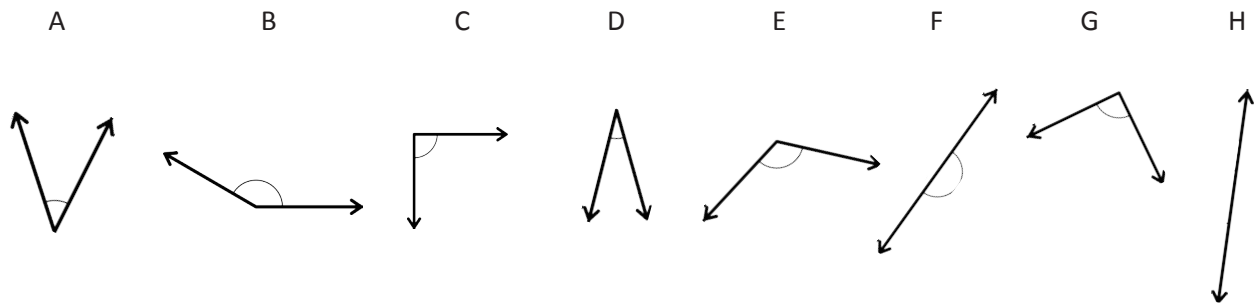
Name \_\_\_\_\_

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1. Fill in the blanks to make true statements using one of the following words: *acute*, *obtuse*, *right*, *straight*.

- a. In class, we made a \_\_\_\_\_ angle when we folded paper twice.
- b. An \_\_\_\_\_ angle is smaller than a right angle.
- c. An \_\_\_\_\_ angle is larger than a right angle, but smaller than a straight angle.

2. Use a right angle template to identify the angles below.



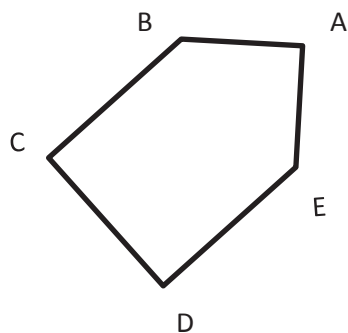
- a. Which angles are right angles? \_\_\_\_\_
- b. Which angles are obtuse angles? \_\_\_\_\_
- c. Which angles are acute angles? \_\_\_\_\_
- d. Which angles are straight angles? \_\_\_\_\_

Name \_\_\_\_\_

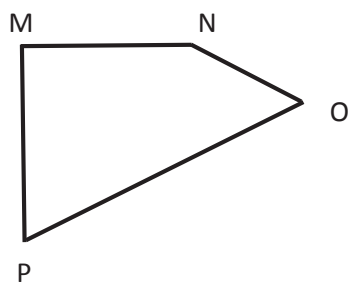
Date \_\_\_\_\_

Use a right angle template to measure the angles in the following figures. Mark each right angle with a small square. Then, name all pairs of perpendicular sides.

1.

 $\overline{BC} \perp$  \_\_\_\_\_

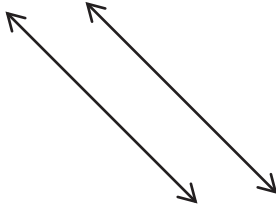
2.

 $\overline{MN} \perp$  \_\_\_\_\_

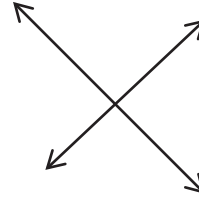
Name \_\_\_\_\_

Date \_\_\_\_\_

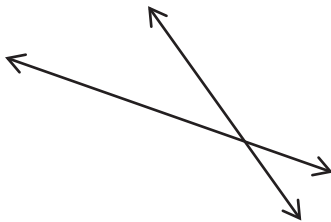
Look at the following pairs of lines. Identify if they are parallel, perpendicular, or intersecting.



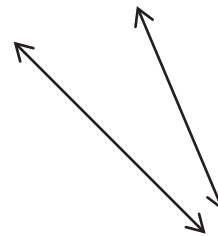
1. \_\_\_\_\_



2. \_\_\_\_\_



3. \_\_\_\_\_



4. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

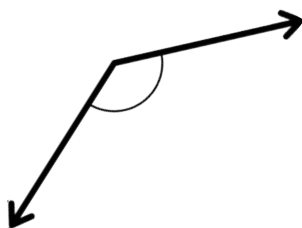
1. How many right angles make a full turn?
2. What is the measurement of a right angle?
3. What fraction of a full turn is  $1^\circ$ ?
4. Name at least four benchmark angle measurements.

Name \_\_\_\_\_

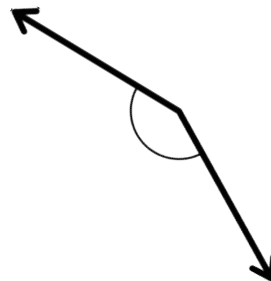
Date \_\_\_\_\_

Use any protractor to measure the angles, and then record the measurements in degrees.

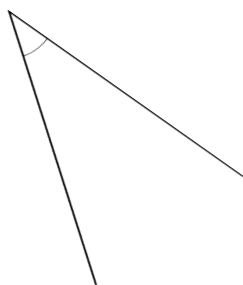
1.



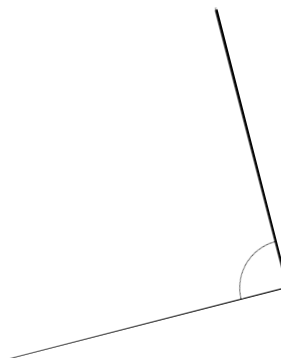
2.



3.



4.



Name \_\_\_\_\_

Date \_\_\_\_\_

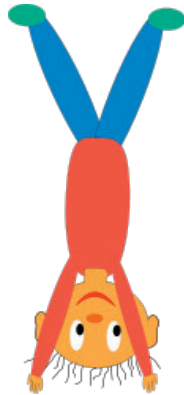
Construct angles that measure the given number of degrees. Draw an arc to indicate the angle that was measured.

1.  $75^\circ$ 2.  $105^\circ$ 3.  $81^\circ$ 4.  $99^\circ$

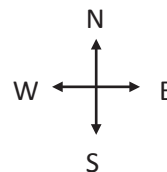
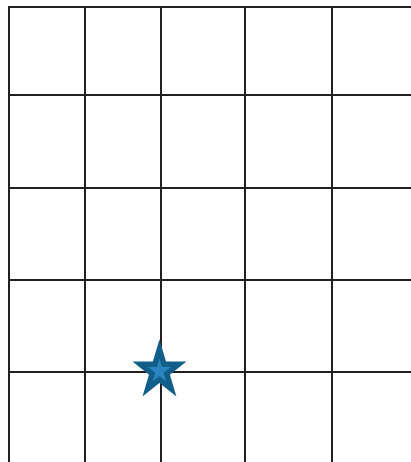
Name \_\_\_\_\_

Date \_\_\_\_\_

1. Marty was doing a handstand. Describe how many degrees his body will turn to be upright again.



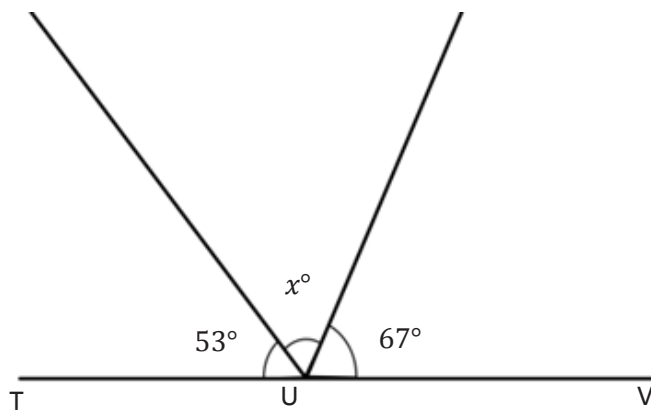
2. Jeffrey started riding his bike at the ★. He travelled north for 3 blocks, then turned  $90^\circ$  to the right and rode for 2 blocks. In which direction was he headed? Sketch his route on the grid below. Each square unit represents 1 block.





Name \_\_\_\_\_

Date \_\_\_\_\_

Write an equation, and solve for  $x$ .  $\angle TUV$  is a straight angle.

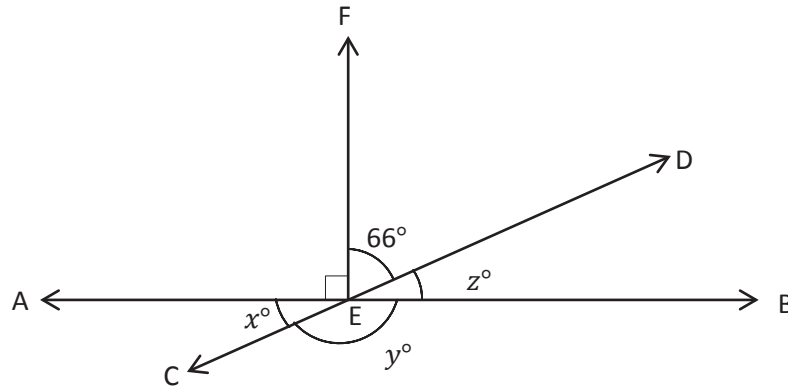
Equation: \_\_\_\_\_

 $x^\circ =$  \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

Write equations using variables to represent the unknown angle measurements. Find the unknown angle measurements numerically.



1.  $x^\circ =$

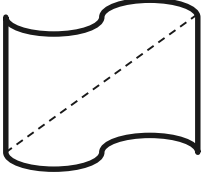
2.  $y^\circ =$

3.  $z^\circ =$

Name \_\_\_\_\_

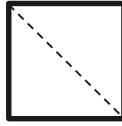
Date \_\_\_\_\_

1. Is the line drawn a line of symmetry? Circle your choice.



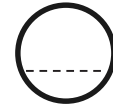
Yes

No



Yes

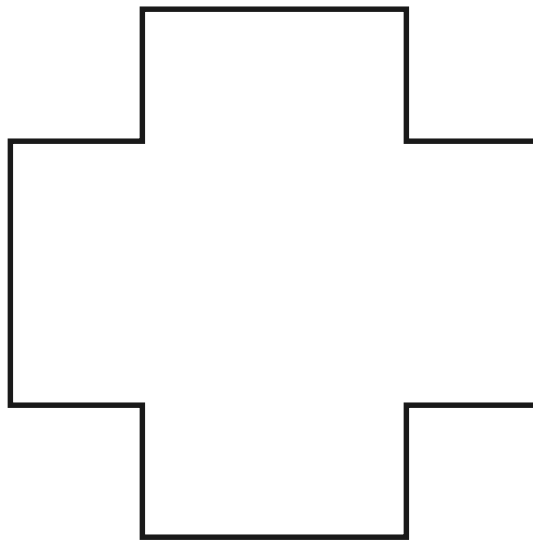
No



Yes

No

2. Draw as many lines of symmetry as you can find in the figure below.

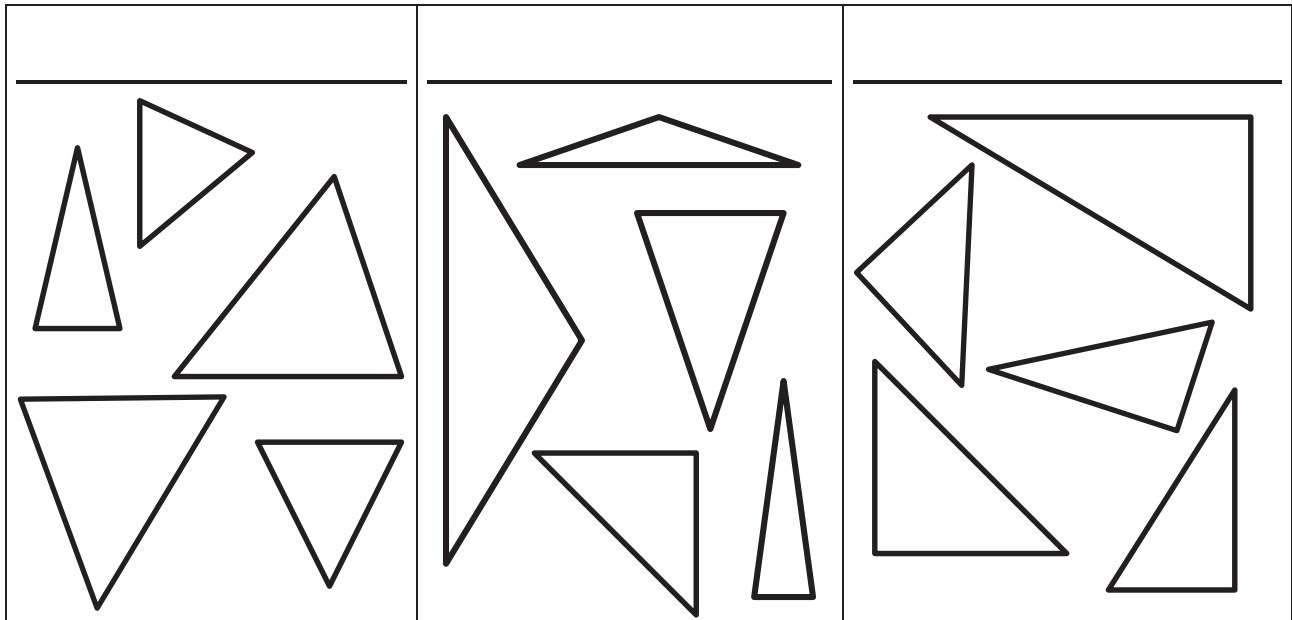


Name \_\_\_\_\_

Date \_\_\_\_\_

Use appropriate tools to solve the following problems.

1. The triangles below have been classified by shared attributes (side length or angle type). Use the words *acute*, *right*, *obtuse*, *scalene*, *isosceles*, or *equilateral* to label the headings to identify the way the triangles have been sorted.

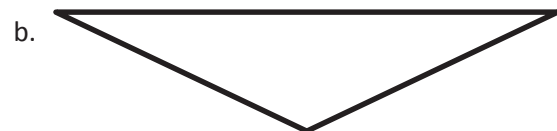


2. Draw lines to identify each triangle according to angle type *and* side length.



Acute

Obtuse



Right

Isosceles



Equilateral

Scalene

3. Identify and draw any lines of symmetry in the triangles in Problem 2.

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Draw an obtuse isosceles triangle, and then draw any lines of symmetry if they exist.

2. Draw a right scalene triangle, and then draw any lines of symmetry if they exist.

3. Every triangle has at least \_\_\_\_ acute angles.

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Date \_\_\_\_\_

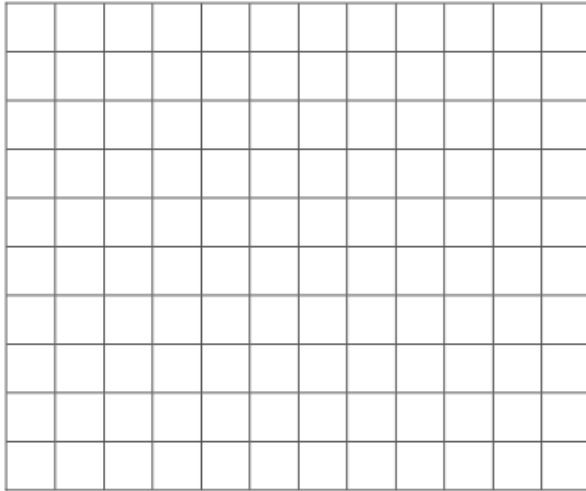
1. In the space below, draw a parallelogram.

2. Explain why a rectangle is a special parallelogram.

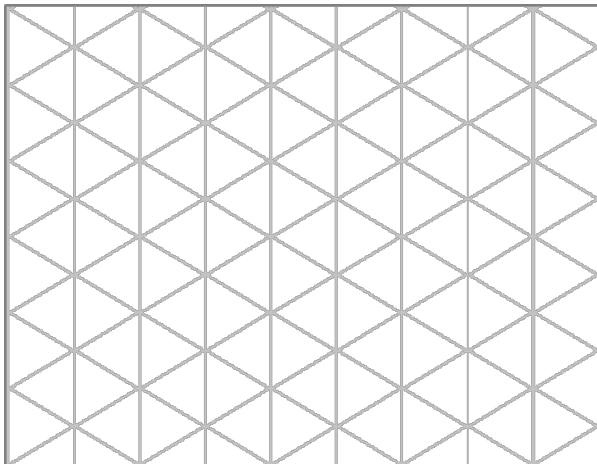
Name \_\_\_\_\_

Date \_\_\_\_\_

1. Construct a parallelogram that does not have any right angles on a rectangular grid.



2. Construct a rectangle on a triangular grid.



# Assessment Packet

Name \_\_\_\_\_

Date \_\_\_\_\_

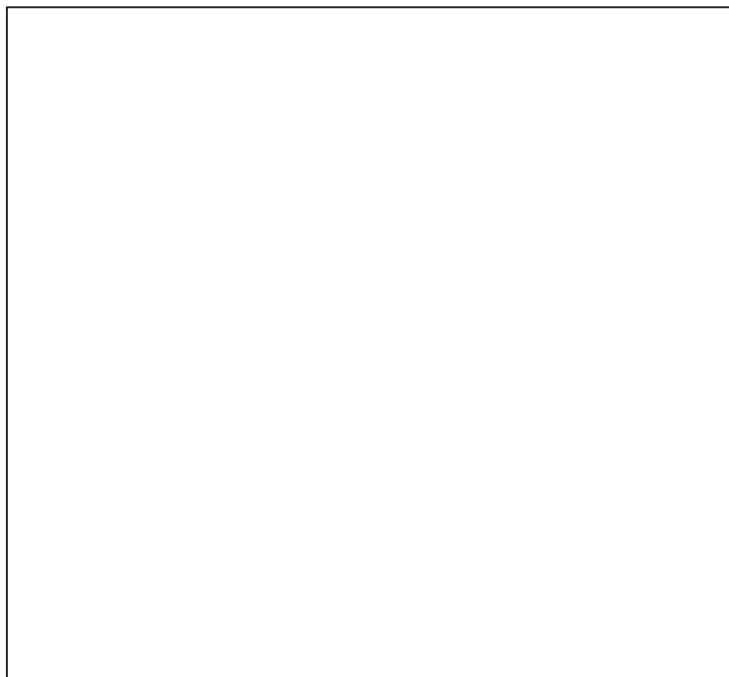
1. Follow the directions below to draw a figure in the box below. Use a straightedge.

- Draw 2 points,  $A$  and  $B$ .
- Draw  $\overleftrightarrow{AB}$ .
- Draw point  $D$  that is not on  $\overleftrightarrow{AB}$ .
- Draw  $\overrightarrow{BD}$ .
- Draw  $\overrightarrow{AD}$ .
- Name an acute angle.

\_\_\_\_\_

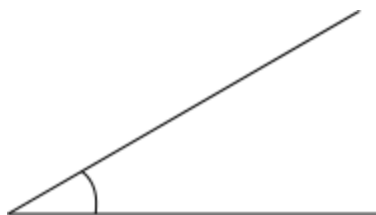
- Name an obtuse angle. You may have to draw and label another point.

\_\_\_\_\_

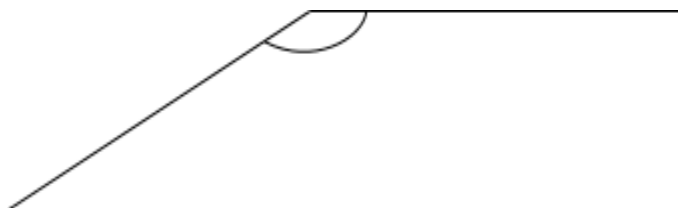


2. Use your protractor to measure the angle indicated by the arc. Classify each angle as right, acute, or obtuse. Explain how you know each angle's classification.

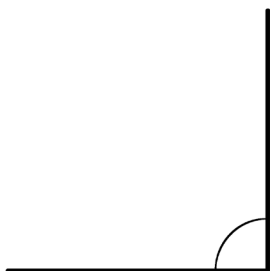
a.



b.

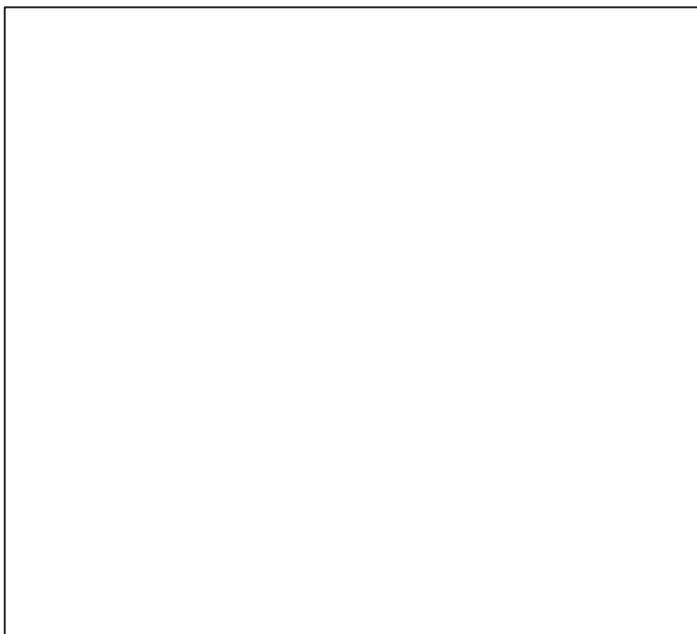


c.



3. Use the following instructions to draw a figure in the box below.

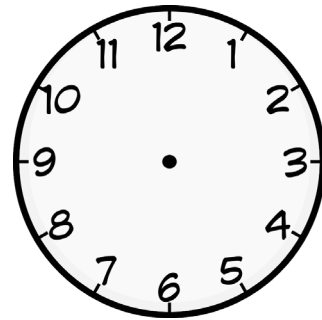
- Using a straightedge, draw a line. Label it  $\overleftrightarrow{KL}$ .
- Label a point  $A$  on  $\overleftrightarrow{KL}$ .
- Using your protractor and ruler, draw a line perpendicular to  $\overleftrightarrow{KL}$  through point  $A$ .
- Label the perpendicular line  $\overleftrightarrow{PQ}$ .
- Label a point  $B$  on  $\overleftrightarrow{PQ}$ , other than point  $A$ .
- Using your protractor and straightedge, draw a line,  $\overleftrightarrow{ST}$ , perpendicular to  $\overleftrightarrow{PQ}$  through point  $B$ .



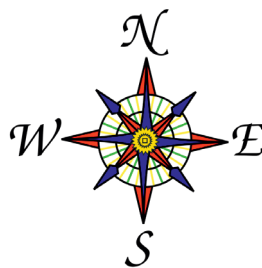
Which lines are parallel in your drawing? Explain why.

4. Use the clock to answer the following:

- Use a straightedge to draw the hands as they would appear at 3:00.
- What kind of angle is formed by the clock hands at 3:00?
- What time will it be when the minute hand has turned  $180^\circ$ ?
- How many  $90^\circ$  turns will the minute hand make between 3:00 and 4:00?

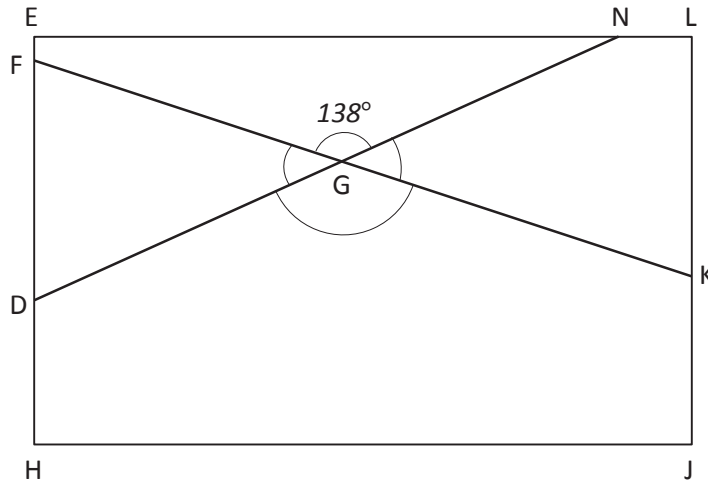


5. Use the compass rose to answer the following:



- Maddy faced East. She turned to her right until she was facing North. How many degrees did she turn?
- Quanisha was facing North. She turned toward her right until she faced East. Alisha was facing South. She turned toward her right until she faced West. What fraction of a full turn did each girl complete? Through how many degrees did each girl turn?

6. The town of Seaford has a large rectangular park with a biking path around its perimeter and two straight-line biking paths that cut across it as shown in the diagram below.



- a. Find the measure of the following angles using a protractor.

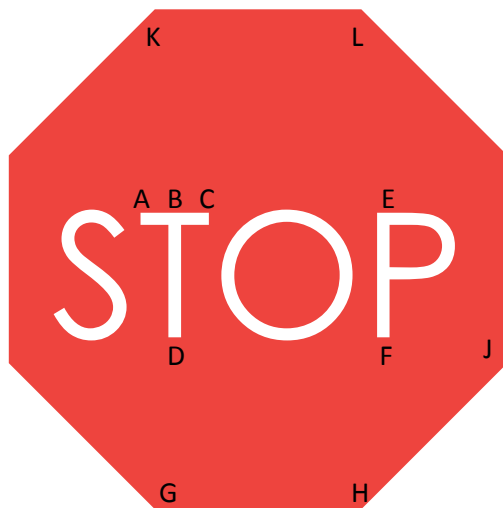
$\angle FGD$ :

$\angle DGK$ :

$\angle KGN$ :

- b. In the space below, use a protractor to draw an angle with the same measure as  $\angle DGK$ .

- c. Below is a sign that bikers may encounter while riding in the park. Using the points in the figure below, identify a line segment, a right angle, an obtuse angle, a set of parallel lines, and a set of perpendicular lines. Write them in the table below.



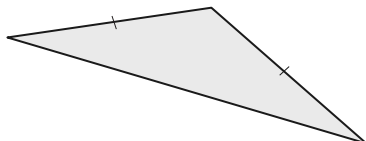
|                     |  |
|---------------------|--|
| Line Segment        |  |
| Right Angle         |  |
| Obtuse Angle        |  |
| Parallel Lines      |  |
| Perpendicular Lines |  |

Name \_\_\_\_\_

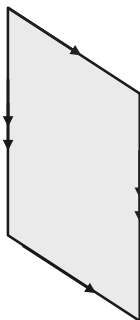
Date \_\_\_\_\_

1. Find and draw all lines of symmetry in the following figures. If there are none, write “none.”

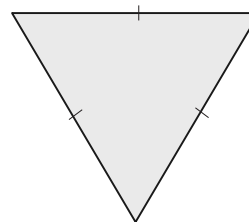
a.



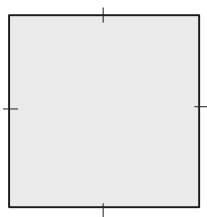
b.



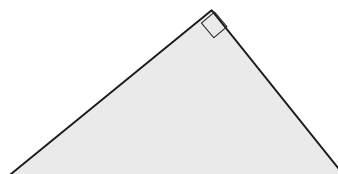
c.



d.



e.



f.



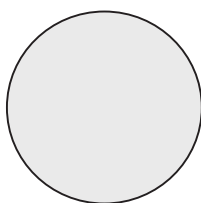
- g. For each triangle listed below, state whether it is acute, obtuse, or right and whether it is isosceles, equilateral, or scalene.

Triangle a: \_\_\_\_\_

Triangle c: \_\_\_\_\_

Triangle e: \_\_\_\_\_

- h. How many lines of symmetry does a circle have? What point do all lines of symmetry for a given circle have in common?



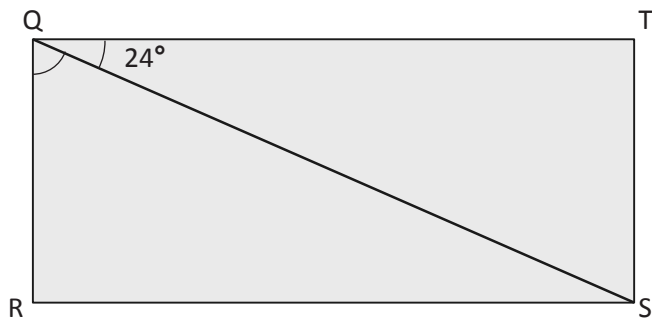
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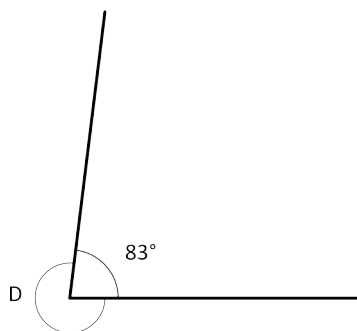
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2. In the following figure, QRST is a rectangle. Without using a protractor, determine the measure of  $\angle RQS$ . Write an equation that could be used to solve the problem.

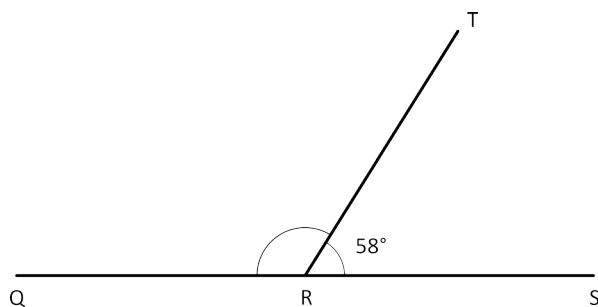


For each part below, explain how the measure of the unknown angle can be found without using a protractor.

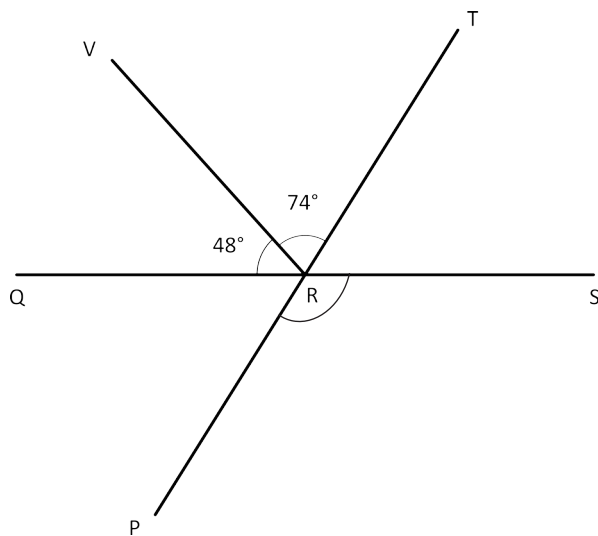
- a. Find the measure of  $\angle D$ .



- b. In this figure, Q, R, and S lie on a line. Find the measure of  $\angle QRT$ .



- c. In this figure, Q, R, and S lie on a line, as do P, R, and T. Find the measure of  $\angle PRS$ .



3. Mike drew some two-dimensional figures.

Sketch the figures, and answer each part about the figures that Mike drew.

- a. He drew a four-sided figure with four right angles. It is 4 cm long and 3 cm wide.

What type of quadrilateral did Mike draw?

How many lines of symmetry does it have?

- b. He drew a quadrilateral with four equal sides and no right angles.

What type of quadrilateral did Mike draw?

How many lines of symmetry does it have?

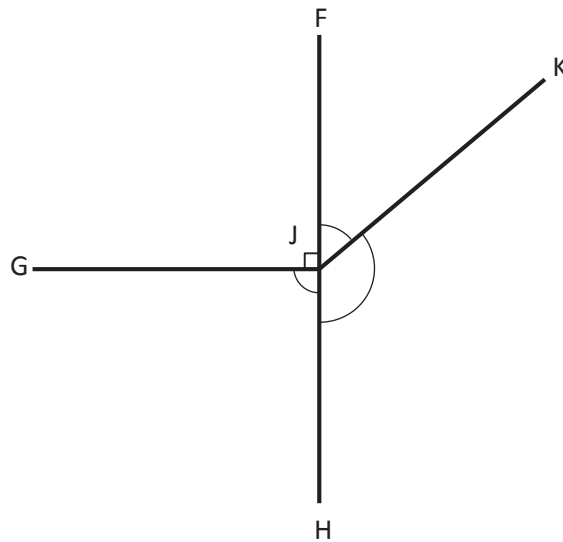
- c. He drew a triangle with one right angle and sides that measure 6 cm, 8 cm, and 10 cm.

Classify the type of triangle Mike drew based on side length and angle measure.

How many lines of symmetry does it have?

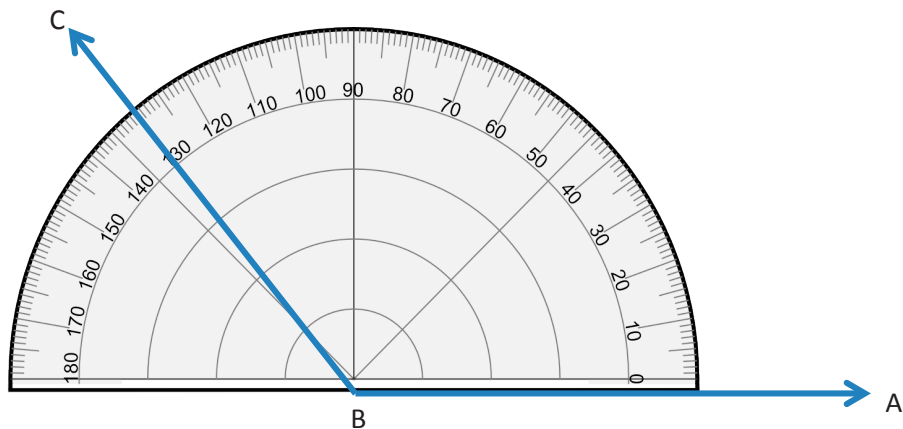
- d. Using the dimensions given, draw the same shape that Mike drew in Part (c).

- e. Mike drew this figure. Without using a protractor, find the sum of  $\angle FJK$ ,  $\angle KJH$ , and  $\angle HJG$ .



- f. Points F, J, and H lie on a line. What is the measure of  $\angle KJH$  if  $\angle FJK$  measures  $45^\circ$ ? Write an equation that could be used to determine the measure of  $\angle KJH$ .

- g. Mike used a protractor to measure  $\angle ABC$  as shown below and said the result was exactly  $130^\circ$ . Do you agree or disagree? Explain your thinking.



- h. Below is half of a line-symmetric figure and its line of symmetry. Use a ruler to complete Mike's drawing.

