

# Line Detectives

*Spot the clues in every figure.*

**GRADE 4 • TEKS 4.6.A**

**4.6.A** "identify points, lines, line segments, rays, angles, and perpendicular and parallel lines;"

NAME \_\_\_\_\_

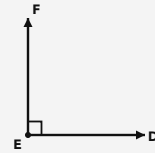
DATE \_\_\_\_\_

## GEOMETRY CLUES

A point is a named location. A line goes on forever in both directions, a line segment has two endpoints, and a ray has one endpoint and goes on forever in one direction. Parallel lines never meet, and perpendicular lines meet to make square corners.

## WORKED EXAMPLE

Look at the angle. What is the vertex, and what kind of angle is it?

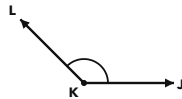


1. The two rays meet at E.
2. The angle makes a square corner.
3. A square corner is a right angle.

**Answer: Vertex E; right angle.**

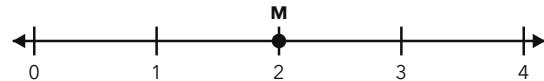
## PRACTICE 6 problems

- 1** Look at the angle. Name its vertex and classify the angle.



**ANSWER** \_\_\_\_\_

- 2** What geometric figure is marked M?



**ANSWER** \_\_\_\_\_

- 3** A straight path has endpoints G and H. It does not extend past either endpoint. What is it called?

**ANSWER** \_\_\_\_\_

- 4** What is a straight path that goes on forever in both directions called?

**ANSWER** \_\_\_\_\_

- 5** Two lines cross to make four square corners. Are the lines parallel or perpendicular?

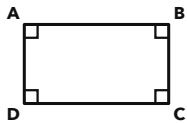
**ANSWER** \_\_\_\_\_

- 6** Lines r and s stay the same distance apart and never meet. Are they parallel or perpendicular?

**ANSWER** \_\_\_\_\_

## APPLY IT Show your work

- 1** A basketball coach draws a rectangular play card. Use the card to name one pair of parallel line segments and one pair of perpendicular line segments.



**ANSWER** \_\_\_\_\_

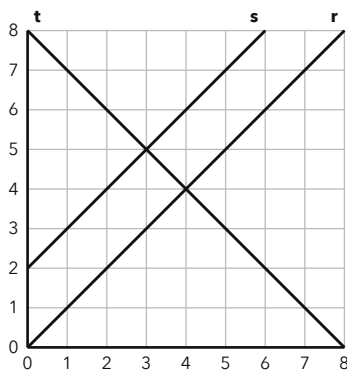
- 2** At robotics club, a laser path begins at point K, passes through point L, and keeps going past L. It does not go backward from K. Is the path a line, line segment, or ray? Name it.

WORK SPACE

**ANSWER** \_\_\_\_\_

## CHALLENGE One step up

Look at the grid. Lines  $r$ ,  $s$ , and  $t$  are straight lines. Name the parallel pair. Then name every perpendicular pair.



WORK SPACE AND ANSWER

## PART 1 • PRACTICE

| # | PROBLEM                                                                                            | ANSWER                         |
|---|----------------------------------------------------------------------------------------------------|--------------------------------|
| 1 | Look at the angle. Name its vertex and classify the angle.                                         | <b>Vertex K; obtuse angle.</b> |
| 2 | What geometric figure is marked M?                                                                 | <b>point</b>                   |
| 3 | A straight path has endpoints G and H. It does not extend past either endpoint. What is it called? | <b>line segment GH</b>         |
| 4 | What is a straight path that goes on forever in both directions called?                            | <b>line</b>                    |
| 5 | Two lines cross to make four square corners. Are the lines parallel or perpendicular?              | <b>perpendicular</b>           |
| 6 | Lines r and s stay the same distance apart and never meet. Are they parallel or perpendicular?     | <b>parallel</b>                |

## PART 2 • APPLY IT

1. **AB is parallel to CD; AB is perpendicular to BC.** Opposite sides of a rectangle are parallel. Adjacent sides of a rectangle are perpendicular.
2. **ray KL** The path has one endpoint, K, and continues in one direction through L. That makes it ray KL.

## CHALLENGE

**r is parallel to s. r is perpendicular to t, and s is perpendicular to t.**

Accept segment names in either order, such as GH or HG. Accept equivalent wording for parallel, perpendicular, point, line, line segment, ray, and angle classifications.