

Geometry Name Game

Use letters and symbols to name shapes and line relationships.

GRADE 4 • 4.MG.4.e

4.MG.4.e "Use symbolic notation to name points, lines, line segments, rays, angles, and to describe parallel and perpendicular lines."

NAME _____

DATE _____

NAME IT WITH SYMBOLS

Write a line as line UV and a segment as segment RS. For a ray, write its endpoint first, as ray JK, and for an angle, put its vertex in the middle, as angle CDE. Use $\parallel$ for parallel lines and $\perp$ for perpendicular lines.

WORKED EXAMPLE

A path begins at F, passes through G, and continues forever. Write its symbolic name.

1. F is the endpoint.
2. G is another point on the path.
3. Write the endpoint first: ray FG.

Answer: ray FG

PRACTICE 6 problems

- 1** A dot is labeled A. Write its symbolic name.

ANSWER _____

- 2** A straight path goes through H and I and extends forever in both directions. Write its symbolic name.

ANSWER _____

- 3** A straight path has endpoints L and M. Write its symbolic name.

ANSWER _____

- 4** A path starts at N, passes through O, and continues forever. Write its symbolic name.

ANSWER _____

- 5** Two rays start at Q. One passes through P, and one passes through R. Name the angle.

ANSWER _____

- 6** Lines TW and XY never meet, even when extended. Write their relationship using symbols.

ANSWER _____

APPLY IT Show your work

- 1** At a space museum, a laser beam starts at B, passes through Z, and keeps going. Write the symbolic name of the laser beam.

WORK SPACE

ANSWER _____

- 2** On a mini-golf course map, line HI and line LM meet to make a right angle. Write their relationship using symbols.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A student names a ray that starts at N and passes through O as ray ON. Is the student correct? Explain and write the correct name.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A dot is labeled A. Write its symbolic name.	point A
2	A straight path goes through H and I and extends forever in both directions. Write its symbolic name.	line HI
3	A straight path has endpoints L and M. Write its symbolic name.	segment LM
4	A path starts at N, passes through O, and continues forever. Write its symbolic name.	ray NO
5	Two rays start at Q. One passes through P, and one passes through R. Name the angle.	angle PQR or angle RQP
6	Lines TW and XY never meet, even when extended. Write their relationship using symbols.	line TW $\parallel$ line XY

PART 2 • APPLY IT

1. **ray BZ** B is the endpoint, so it must be written first. The beam is ray BZ.
2. **line HI $\perp$ line LM** Lines that meet at a right angle are perpendicular. Use the symbol $\perp$ between the line names.

CHALLENGE

No. The first letter of a ray names its endpoint. The correct name is ray NO.

Accept reversed letter order for a line or segment. Accept either outside-letter order for an angle, but the vertex must stay in the middle, and a ray must name its endpoint first.