

Angle Detectives

Find shapes made from two rays with one shared endpoint.

CCSS.Math.Content.4.MD.C.5 "Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:"

NAME _____

DATE _____

ANGLE

An angle is made by two rays that share one endpoint.
The shared endpoint is the angle's vertex.

Ray AX and ray AY begin at point A.

NOT AN ANGLE

A shape is not an angle if it does not have two rays with the same endpoint. Other shapes can meet or cross without making an angle.

A curved path touches a ray at one point.

1 SORT

8 items

Circle ANGLE or NOT ANGLE for each item, then choose two items and explain how you knew.

1. Ray CD and ray CE share endpoint C.

ANGLE

NOT ANGLE

2. Two line segments meet at one endpoint.

ANGLE

NOT ANGLE

3. Ray FG and ray FH share endpoint F.

ANGLE

NOT ANGLE

4. Ray JK and ray LM have different endpoints.

ANGLE

NOT ANGLE

5. A line and a ray meet at a point.

ANGLE

NOT ANGLE

6. Ray NP and ray NQ share endpoint N.

ANGLE

NOT ANGLE

7. Rays RS and TU cross, but their endpoints are different.

ANGLE

NOT ANGLE

8. Ray VW and ray VX share endpoint V.

ANGLE

NOT ANGLE

2 PROVE IT Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ HOW I KNEW _____

ITEM # _____ HOW I KNEW _____

3 MAKE YOUR OWN One of each

Write one new example of an ANGLE and one new example of a NOT ANGLE.

ANGLE _____

NOT ANGLE _____

CHALLENGE

Draw an angle. Label its vertex and label each of its two rays.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	Ray CD and ray CE share endpoint C.	ANGLE	Two rays share endpoint C.
2	Two line segments meet at one endpoint.	NOT ANGLE	The shape has line segments, not two rays.
3	Ray FG and ray FH share endpoint F.	ANGLE	Two rays share endpoint F.
4	Ray JK and ray LM have different endpoints.	NOT ANGLE	The rays do not share an endpoint.
5	A line and a ray meet at a point.	NOT ANGLE	The shape does not have two rays.
6	Ray NP and ray NQ share endpoint N.	ANGLE	Two rays share endpoint N.
7	Rays RS and TU cross, but their endpoints are different.	NOT ANGLE	Crossing rays do not make an angle unless they share an endpoint.
8	Ray VW and ray VX share endpoint V.	ANGLE	Two rays share endpoint V.

PART 2 • PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 • MAKE YOUR OWN (SAMPLE ANSWERS)

- **ANGLE:** Ray GH and ray GI share endpoint G.
- **NOT ANGLE:** A circle touches a ray at one point.

Challenge: Draw ray KL and ray KM sharing endpoint K. Circle K as the vertex and label the rays KL and KM.

For Part 2, students should explain that an angle has two rays sharing one endpoint, or identify what is missing from a non-angle. Accept equivalent correct examples in Part 3 and the challenge.