## Name:

Grade:

Score:

## Worksheet #1

MeandMath

UNDERSTANDING LINES, LINE SEGMENTS, AND RAYS

**Learning goal:** Students will distinguish between lines, line segments, and rays, identify their properties (endpoints, length, direction), and apply using mathematical vocabulary.

Ayaan is helping his cousin Zara draw designs for a rangoli. She wants to create patterns using different types of lines. Ayaan learns that some lines go endlessly, some stop at points, and some shoot out from one point like a ray of light. Curious, he starts asking questions while drawing with a ruler and chalk.

**1.** Zara draws a line starting from point A and passing through point B, continuing endlessly in both directions. What is this called?

2. Ayaan draws a line that starts at point C and ends at point D. What type of line is this.

**3.** If a ray starts at point E and passes through point F, how many endpoints does it have and name it?

4. Ayaan says he can measure the length of a line using a ruler. Is he correct?

**5.** Zara measures the length of a chalk mark between point G and H as 12 cm. What kind of geometric object is this?

6. Ayaan says that a ray can be extended from its starting point. Is he correct? Why or why not.

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7. If Zara draws a line segment 15 cm long and divides it into 3 equal parts, what is the length of each part?

**8.** Ayaan draws 2 rays from the same point forming a 60° angle. What is the point called where the rays meet?

9. Zara claims that every line segment is part of a line. Is she correct?

**10.** Ayaan draws a ray starting at point M and going through point N. How can he show this using notation?

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## Grade:

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## Worksheet #1(Answers)

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**Learning goal:** Students will distinguish between lines, line segments, and rays, identify their properties (endpoints, length, direction), and apply using mathematical vocabulary.

Ayaan is helping his cousin Zara draw designs for a rangoli. She wants to create patterns using different types of lines. Ayaan learns that some lines go endlessly, some stop at points, and some shoot out from one point like a ray of light. Curious, he starts asking questions while drawing with a ruler and chalk.

**1.** Zara draws a line starting from point A and passing through point B, continuing endlessly in both directions. What is this called? **A Line** 

2. Ayaan draws a line that starts at point C and ends at point D. What type of line is this.

A line segment.

**3.** If a ray starts at point E and passes through point F, how many endpoints does it have and name it? **One endpoint (at point E).** 

**4.**Ayaan says he can measure the length of a line using a ruler. Is he correct? **No, a line has no end, so its length cannot be measured.** 

5. Zara measures the length of a chalk mark between point G and H as 12 cm. What kind of geometric object is this?
A line segment.

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**6.**Ayaan says that a ray can be extended from its starting point. Is he correct? Why or why not.

No, a ray starts from one point and extends endlessly in one direction only.

7. If Zara draws a line segment 15 cm long and divides it into 3 equal parts, what is the length of each part?  $\frac{15}{3} = 5$  5cm

8. Ayaan draws 2 rays from the same point forming a 60° angle. What is the point called where the rays meet?The endpoint or vertex.

9. Zara claims that every line segment is part of a line. Is she correct?

Yes, a line segment is a part of a line between two endpoints.

**10.** Ayaan draws a ray starting at point M and going through point N. How can he show this using notation? As,  $\overrightarrow{MN}$ 

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