

Points, Lines, Rays, and Angles

Name: _____ Date: _____ Score: _____ / 24

Q Quick Review

Geometry starts with a few simple building blocks. A **point** is just an exact spot — it has no size at all. A **line** is perfectly straight and goes on forever in *both* directions. A **ray** starts at one endpoint and goes on forever in only *one* direction, like a beam from a flashlight. A **line segment** is a straight path with *two* endpoints, so it has a definite length. When two rays share the same endpoint, they form an **angle**. A **right angle** measures exactly 90° and makes a square corner. An **acute angle** is smaller than 90° , and an **obtuse angle** is larger than 90° but less than 180° .

◇ **Example:** A figure is perfectly straight, has two endpoints, and has a definite length you could measure with a ruler. What is it?

⇒ Let's check the clues one at a time. It is straight, so it is one of our geometry pieces. The big clue is *two endpoints* — a line has no endpoints and a ray has only one, but a line segment has exactly two. Having two endpoints is also why it has a length you can measure. So this figure must be a line segment.

Answer: line segment

PRACTICE

Name the geometric term or classify the angle described in each problem.

1. An exact spot with no size _____
2. A straight path that goes on forever in both directions _____
3. A straight path with two endpoints _____
4. A straight path with one endpoint that goes on forever one way _____
5. Two rays that share the same endpoint _____
6. An angle that measures exactly 90° _____
7. An angle that measures 45° _____
8. An angle that measures 130° _____
9. An angle that measures 20° _____
10. An angle that measures 95° _____
11. The corner of a sheet of paper is which kind of angle? _____
12. An angle that measures 89° _____
13. An angle that measures 90° _____
14. An angle that measures 179° _____
15. A beam of light from a flashlight is most like a ... _____
16. An angle that measures 1° _____
17. An L-shaped corner forms an angle that is which kind? _____
18. An angle that measures 150° _____
19. The shape of a ruler's edge with two marked ends _____
20. An angle that measures 60° _____

◆ Word Problems

21. Maria is looking at the hands of a clock at 3:00. The two hands meet at the center and form an angle of 90° . What kind of angle do the clock hands make? _____
22. Jayden draws a straight path on his paper and puts a clear dot at each end so everyone knows where it stops. What geometric figure did Jayden draw? _____
23. During art class, Priya tilts her ramp so the angle between the ramp and the floor opens to 35° . Is that angle acute, right, or obtuse? _____
24. A lighthouse sends a beam of light that starts at the lamp and travels straight out across the ocean as far as it can go. Which geometric figure best matches that beam of light? _____



Answer Keys

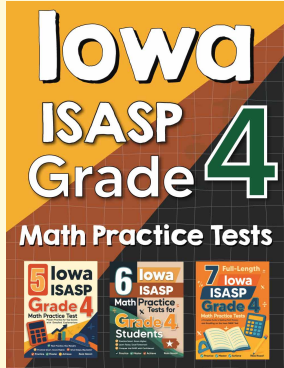
- | | |
|------------------|--------------------|
| 1. point | 13. right angle |
| 2. line | 14. obtuse angle |
| 3. line segment | 15. ray |
| 4. ray | 16. acute angle |
| 5. angle | 17. right angle |
| 6. right angle | 18. obtuse angle |
| 7. acute angle | 19. line segment |
| 8. obtuse angle | 20. acute angle |
| 9. acute angle | 21. a right angle |
| 10. obtuse angle | 22. a line segment |
| 11. right angle | 23. acute |
| 12. acute angle | 24. a ray |

Step-by-Step Explanations

- | | |
|---|---|
| <p>1. A point just marks one exact location — it has no length or width at all.</p> <p>2. A line never ends — it keeps going forever in both directions.</p> <p>3. Two endpoints means it is a line segment, so it has a length you can measure.</p> <p>4. One endpoint and one forever-direction — that is a ray, like a flashlight beam.</p> <p>5. When two rays meet at a shared endpoint, they form an angle.</p> <p>6. Exactly 90° makes a perfect square corner, so it is a right angle.</p> <p>7. Since 45° is less than 90°, this is an acute angle.</p> <p>8. Since 130° is between 90° and 180°, it is an obtuse angle.</p> <p>9. 20° is much smaller than 90°, so the angle is acute.</p> <p>10. 95° is just past 90°, so it counts as an obtuse angle.</p> <p>11. A paper corner is a perfect square corner, which is a right angle of 90°.</p> <p>12. 89° is just under 90°, so the angle is acute.</p> <p>13. Any angle measuring exactly 90° is a right angle.</p> <p>14. 179° is less than 180° but more than 90°, so it is obtuse.</p> | <p>15. It starts at the flashlight and shines on forever one way — that is a ray.</p> <p>16. 1° is a tiny angle, far below 90°, so it is acute.</p> <p>17. An L-shape makes a square corner of 90°, which is a right angle.</p> <p>18. 150° falls between 90° and 180°, so it is obtuse.</p> <p>19. Two marked ends means two endpoints, so the edge is a line segment.</p> <p>20. 60° is less than 90°, so the angle is acute.</p> <p>21. An angle of exactly 90° is a right angle. At 3:00 the hands make a perfect square corner.</p> <p>22. A straight path with two endpoints is a line segment. The two dots are the endpoints.</p> <p>23. Since 35° is less than 90°, the angle is acute — it is a small, narrow opening.</p> <p>24. The beam has one starting endpoint at the lamp and goes on forever in a single direction, which is exactly what a ray is.</p> |
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