Points, Lines, Rays, and Segments

The basic objects of geometry, how they are named, and how simple length relationships work.

Name _____ Date _____

32 main · 2-up grid · 11 pages · visible side quests

Completion Reward

Shown here as a small pack artifact, not a preview destination.

1. How many endpoints does a segment have?

A. 1
B. 0
C. 4
D. 2

1.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

1.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

1.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

1.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

1.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

2. Which statement describes parallel lines?

A. They always cross at a right angle
B. They share all the same points
C. They must be vertical
D. They stay the same distance apart and never meet

2.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

2.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

2.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

2.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

2.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

3. Perpendicular lines intersect to form what kind of angle?

A. An acute angle
B. An obtuse angle
C. A straight angle
D. A right angle

3.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

3.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

3.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

3.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

3.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

4. Which object extends forever in both directions?

Unlike a segment or ray, a line has no endpoints and continues without end in both directions.

A. A ray
B. A segment
C. A line
D. A midpoint

4.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

4.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

4.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

4.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

4.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

5. Which object has one endpoint and continues forever in one direction?

A. A line
B. A ray
C. A segment
D. A polygon

5.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

5.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

5.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

5.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

5.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

6. In ray AB, which point is the endpoint?

A. B
B. Both A and B
C. Neither A nor B
D. A

6.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

6.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

6.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

6.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

6.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

7. What does collinear mean?

Points are collinear when a single straight line passes through all of them.

A. Points are the same distance from zero
B. Points form a right angle
C. Points always have equal coordinates
D. Points lie on the same line

7.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

7.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

7.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

7.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

7.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

8. What is true when two lines intersect?

A. They can never cross
B. They share at least one point
C. They must be parallel
D. They must have endpoints

8.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

8.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

8.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

8.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

8.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

9. What does it mean if two segments are congruent?

A. They have the same length
B. They are on the same line
C. They point in the same direction
D. They share an endpoint

9.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

9.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

9.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

9.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

9.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

10. Opposite rays share an endpoint and do what?

A. Form a right angle
B. Create a triangle
C. Form a straight line
D. Create parallel lines

10.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

10.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

10.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

10.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

10.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

11. What is always true about perpendicular lines?

A. They never intersect
B. They have the same slope in every case
C. They are always horizontal
D. They intersect to form a right angle

11.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

11.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

11.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

11.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

11.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

12. What is true about parallel lines in a plane?

A. They always form right angles
B. They never meet
C. They must be the same line
D. They share all points

12.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

12.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

12.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

12.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

12.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

13. In the diagram, which name matches the segment with endpoints A and B?

A segment is the finite part of a line bounded by its two endpoints.

A. ray AB
B. line AB
C. segment AB
D. angle AB

13.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

13.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

13.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

13.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

13.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

14. Which statement is true about points A, B, and C in the diagram?

Use the drawing to decide whether the labeled points lie on one line and which named objects they determine.

A. They form a triangle
B. Only A and C are on the line
C. They are collinear
D. Point B is off the line

14.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

14.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

14.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

14.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

14.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

15. Which object has exactly one endpoint?

A. A ray
B. A line
C. A segment
D. An angle

15.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

15.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

15.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

15.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

15.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

16. If AB = 4, BC = 7, and B is between A and C, what is the best next step to find AC?

A. Add AB and BC
B. Subtract BC from AB
C. Multiply AB and BC
D. Divide BC by AB

16.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

16.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

16.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

16.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

16.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

17. If B is the midpoint of AC and AC = 26, what is the best next step to find AB?

A. Divide 26 by 2
B. Multiply 26 by 2
C. Add 26 and 2
D. Subtract 2 from 26

17.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

17.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

17.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

17.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

17.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

18. A student says a line segment goes on forever in both directions. What is the mistake?

A. That describes a ray, not a segment
B. That describes a line, not a segment
C. A segment has one endpoint only
D. A segment is always curved

18.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

18.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

18.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

18.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

18.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

19. A student says a segment extends forever in both directions. What is wrong?

A. That describes a ray, not a segment
B. That describes a line, not a segment
C. Segments have one endpoint
D. Segments are always vertical

19.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

19.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

19.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

19.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

19.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

20. A student says if M is the midpoint of AB, then AM = AB. What is the mistake?

A. A midpoint is always an endpoint
B. Midpoints only exist on horizontal segments
C. A midpoint gives half the whole segment, not the entire segment
D. AB must be 0

20.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

20.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

20.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

20.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

20.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

21. If AB = 3 and BC = 5 with B between A and C, find AC. Answer with a number.

21.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

21.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

21.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

21.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

21.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

22. If AC = 12 and AB = 5 with B between A and C, find BC. Answer with a number.

22.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

22.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

22.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

22.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

22.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

23. If AD = 6 and DB = 4 with D between A and B, find AB. Answer with a number.

23.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

23.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

23.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

23.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

23.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

24. Point M is the midpoint of CD. If CD = 18, find CM. Answer with a number.

24.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

24.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

24.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

24.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

24.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

25. If QP = 8 and PR = 6 with P between Q and R, find QR. Answer with a number.

25.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

25.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

25.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

25.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

25.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

26. If AB = 7 and BC = 7 with B between A and C, find AC. Answer with a number.

26.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

26.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

26.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

26.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

26.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

27. If AC = 25 and DC = 11 with D between A and C, find AD. Answer with a number.

27.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

27.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

27.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

27.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

27.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

28. What is always true if M is the midpoint of AB?

A. AM = MB
B. AM > MB
C. AB = MB
D. M is an endpoint

28.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

28.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

28.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

28.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

28.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

29. If M is the midpoint of AB, AM = 2x + 1, and MB = 9, what is the best next step?

A. Add 2x + 1 and 9
B. Set 2x + 1 equal to 9
C. Subtract 9 from AB
D. Multiply both lengths by 2

29.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

29.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

29.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

29.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

29.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

30. Point M is the midpoint of AB. If AB = 14, what is AM? Answer with a number.

30.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

30.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

30.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

30.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

30.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

31. If AB = 3x + 1, BC = 4, and AC = 14 with B between A and C, find x. Answer with a number.

31.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

31.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

31.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

31.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

31.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides

32. If M is the midpoint of AB, AM = 2x + 1, and MB = 9, find x. Answer with a number.

32.1. Which object has two endpoints?

A. Line
B. Ray
C. Segment
D. Plane

32.2. Angles that add to 90 degrees are:

A. supplementary
B. vertical
C. complementary
D. congruent

32.3. Angles that add to 180 degrees are:

A. supplementary
B. complementary
C. adjacent only
D. acute

32.4. If a triangle has angles 50 degrees and 60 degrees, the third angle is:

A. 70 degrees
B. 80 degrees
C. 90 degrees
D. 110 degrees

32.5. Perimeter measures:

A. space inside a figure
B. distance around a figure
C. slant height only
D. number of sides