## Chapter 9 – Geometric Figures  Answer Key

### 9.1 Basic Geometric Definitions

**Answers**

1. Ray  
2. Line segment  
3. Line  
4. Angle  
5. True  
6. Line segment  
7. Endpoints  
8. No  
9. Because there are endpoints  
10. No  
11. A building must have endpoints  
12. Line – set of connected points without endpoints  
13. Line segment – set of connected points with two endpoints  
14. Ray – line with one endpoint that continues indefinitely in the other direction  
15. Point – location in space that doesn’t have size or shape

### 9.2 Intersecting and Parallel Lines

**Answers**

1. Parallel  
2. Intersecting  
3. Intersecting  
4. Intersecting  
5. Parallel  
6. Parallel  
7. Intersecting  
8. Parallel  
9. Parallel  
10. Intersecting  
11. Intersecting  
12. Parallel  
13. Parallel  
14 – 16 Answers Vary

### 9.3 Identification of Angles by Vertex and Ray

**Answers**

1 – 12 Answers Vary  
13. Ray – a line that has one endpoint and continues indefinitely in the other direction  
14. Line – a set of connected points with no endpoints  
15. Vertex – the center point on an angle  
16. Line segment – a set of connected points with two endpoints

### 9.4 Angle Measurement

**Answers**

1 – 15 Answers will vary.
## Chapter 9 – Geometric Figures Answer Key

### 9.5 Angle Classification

**Answers**

1. Straight  
2. Obtuse  
3. Acute  
4. Right  
5. Acute  
6. Right  
7. Straight  
8. Obtuse  
9. Obtuse  
10. Acute  
11. Acute  
12. Obtuse  
13. Acute  
14. Acute  
15. Acute

### 9.6 Supplementary and Complementary Angle Pairs

**Answers**

1. Complementary  
2. Complementary  
3. Supplementary  
4. Supplementary  
5. $90^\circ$  
6. $180^\circ$  
7. False  
8. True  
9. False  
10. False  
11. Supplementary  
12. Complementary  
13. Neither  
14. Neither  
15. Complementary

### 9.7 Triangle Classification by Angles

**Answers**

1. Right  
2. Acute  
3. Equiangular  
4. Obtuse  
5. Acute  
6. Acute  
7. Obtuse  
8. Right  
9. Equiangular  
10. Obtuse  
11. Obtuse  
12. Acute  
13. Acute  
14. Obtuse  
15. Acute

### 9.8 Triangle Classification by Side Lengths

**Answers**

1. 2  
2. 1  
3. $180^\circ$  
4. Greater than $90^\circ$  
5. 1  
6. 2  
7. $60^\circ$  
8. Inside angle  
9. False  
10. True  
11. True  
12. True  
13. False  
14. True  
15. False
Chapter 9 – Geometric Figures  Answer Key

9.9  Angle Measures in Given Triangles

Answers
11. 3   12. 90°  13. 60°  14. 75°  15. 25°

9.10  Quadrilateral Classification

Answers
1. Rectangle  2. Square  3. Parallelogram
4. Trapezoid  5. Rhombus  6. Quadrilateral
10. Rhombus  11. Square or rectangle  12. Quadrilateral

9.11  Angle Measures in Given Quadrilaterals

Answers
1. True  2. 360°  3. 90°  4. 90°  5. False
6. 60°  7. 85°  8. 70°  9. 105°  10. 360°

9.12  Polygon Classification

Answers
1. Polygon  2. Not a Polygon  3. Not a polygon
10. It has a curve  11. It has a curve  12. Open figure
13. Closed figure with straight lines  14. Open figure  15. Closed figure
Chapter 9 – Geometric Figures  Answer Key

9.13  Regular and Irregular Polygons

Answers


9.14  Relation of Polygon Sides to Angles and Diagonals

Answers

6. Parallelogram  7. 2  8. 1  9. 3  10. 720°

9.15  Triangle Identification as Similar, Congruent or Neither

Answers

Images for questions 1 – 5 are missing and need to be put onto the web page.

6. Yes, congruent triangles have the same angle measures.  7. True  8. False

13. Congruent means being exactly the same with the same shape and measures.

14 – 15. Answers will vary

9.16  Corresponding Parts of Congruent Figures

Answers

1. Congruent  2. Has the same size and shape  3. GH
4. GI  5. HI  6. IO
7. EF  8. Answers will vary  9. A, S, or C
10. D, P, or B  11. C, Q, or A  12. AB, SR, DC
Chapter 9 – Geometric Figures  Answer Key

9.17  Corresponding Parts of Similar Figures

Answers

1. Similar  2. Has the same shape, but not the same size  3. QR
4. QS  5. BC  6. Angle Q
10. Same size, shape and measures  11. QT  12. TS
13. MN  14. NO  15. QR

9.18  Unknown Measures of Similar Figures

Answers

1. Similar  2. Same shape, but not the same size  3. QR
4. QS  5. BC  6. \( x = 7 \)
7. \( y = 3 \)  8. Cross Multiplication and division solving a proportion  9. 12
10. 2  11. 20  12. 2
13. 5  14. 38  15. 36

9.19  Indirect Measurement

Answers

6. 5 feet  7. 12 feet  8. 5 feet  9. Answer Vary  10. 3 cm
11. 56”  12. 9  13. 2  14. 1.6  15. 21

9.20  Lines of Symmetry

Answers

1 -6 Answers vary
13 – 16 Answers vary
Chapter 9 – Geometric Figures  Answer Key

9.21  Number Patterns

**Answers**

1. 12  
2. 8  
3. 64  
4. 25  
5. 7.5

6. 77  
7. 108  
8. 19  
9. 7  
10. 17

11. 42  
12. 50  
13. 70  
14. 3.125  
15. 23

9.22  Venn Diagrams

**Answers**

Answers will vary due to the drawing of Venn diagrams.