Assignment

Write

Describe the Triangle Inequality Theorem in your own words.

Remember

When given two line segments, it is possible to construct an infinite number of triangles. When given three line segments, it is possible to construct 0 triangles, a unique triangle, or an infinite number of triangles.

Practice

1. Determine if the given side lengths could be used to form a unique triangle, many different triangles, or no triangles. Explain your reasoning.

   a. 300 mm, 190 mm
   b. 4 m, 5.1 m, 12.5 m
   c. 7.4 cm, 8.1 cm, 9.8 cm
   d. 12 ft, 7 ft, 14 ft
   e. 20.2 in., 11 in., 8.2 in.

2. Analyze the given line segments. If the given information would create a unique triangle, multiple triangles, or no triangles. Then use the information to construct a triangle, if possible.
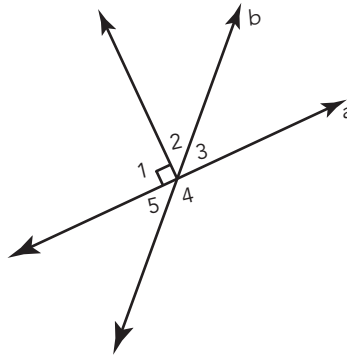
   a.
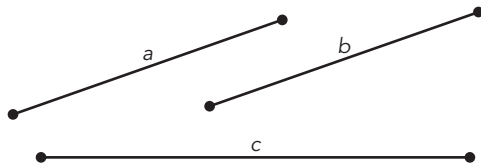
   b.
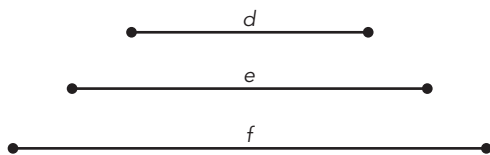
Stretch

Use your compass and straightedge to construct an equilateral triangle.

Review

1. Use the diagram to identify the specified angles given lines *a* and *b*.

   a. All adjacent angles

   b. All linear pairs

   c. All vertical angles

   d. All right angles

   e. All complementary angles

2. The average monthly rainfall in two Alaskan cities over a 30-year period is shown in the table. Use this data to answer the questions.

   a. Determine the five number summary describing the average monthly rainfall in each city.

   b. Construct a box-and-whisker plot to display the average monthly rainfall in each city.

   c. Describe the rainfall in each Alaskan city in terms of the median and IQR.

Month	Annette, Alaska Average Monthly Rainfall (inches)	Barrow, Alaska Average Monthly Rainfall (inches)
January	9.67	0.12
February	8.05	0.12
March	7.96	0.09
April	7.37	0.12
May	5.73	0.12
June	4.72	0.32
July	4.26	0.87
August	6.12	1.04
September	9.49	0.69
October	13.86	0.39
November	12.21	0.16
December	11.39	0.12

3. Number tiles containing the numbers 11–20 are in a bag. One tile is pulled from the bag. Determine each probability.

   a. *P*(prime) =

   b. *P*(multiple of 3) =