

# Assignment

## Write

Draw a diagram to illustrate the terms *included angle* and *included side*. Provide an explanation of what each term means.

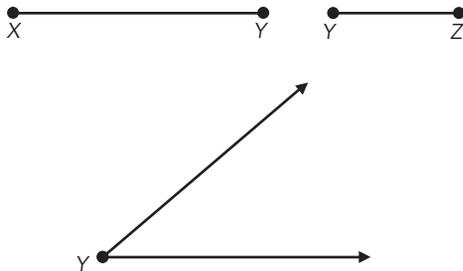
## Remember

When you are given three of the six parts of a triangle, it may be possible to construct a unique triangle, more than one triangle, or no triangles from the information.

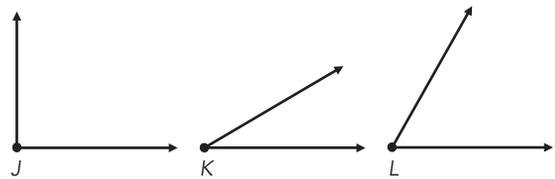
## Practice

1. Analyze the given parts. State if the given information would create a unique triangle, multiple triangles, or no triangles. Then use the information to construct a triangle, if possible.

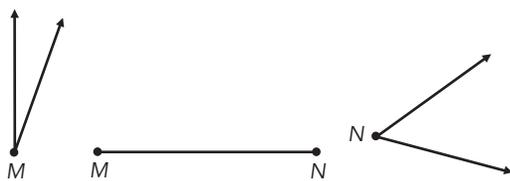
- a. Use the two line segments and the included angle to construct  $\triangle XYZ$ .



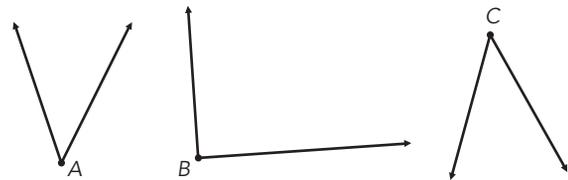
- b. Use the three angles to construct  $\triangle JKL$ .



- c. Use the two angles and the included side to construct  $\triangle MNP$ .



- d. Use the three angles to construct  $\triangle ABC$ .

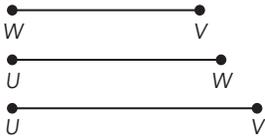


## Stretch

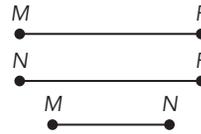
Use patty paper to create an isosceles triangle. Then use your compass and straightedge to construct an isosceles triangle.

## Review

1. Construct  $\triangle UVW$  using the three line segments shown.



2. Construct  $\triangle MNP$  using the three line segments shown.



3. A consumer reporter was asked about the battery life of two different brands of batteries. He ran an experiment 10 times using identical lanterns to determine the battery life of each brand of battery. The results of his experiment are shown.

- Calculate the mean and median for the battery life for each brand of battery and convert the measurements to hours. What do you notice?
  - Determine and interpret the five-number summary and IQR for each data set. Then, describe some observations from the data of each five-number summary.
  - Construct box-and-whisker plots for each brand of battery using the same number line for both. In terms of the box-and-whisker plots, which brand of battery had more variation in the battery life? Explain your reasoning.
  - If you were Fernando, which brand of battery would you use? Explain.
4. Create a tree diagram to represent the sample space for each experiment.
- Rolling a 6-sided number cube and flipping a coin.
  - Spinning a spinner with 4 equal sections numbered 1–4 twice and determining the product of the results.

Brand A Battery Life (minutes)	Brand B Battery Life (minutes)
1029	970
1038	1264
1023	1088
1018	950
1050	893
1034	1000
1021	1028
1025	1064
1031	1007
1041	1046