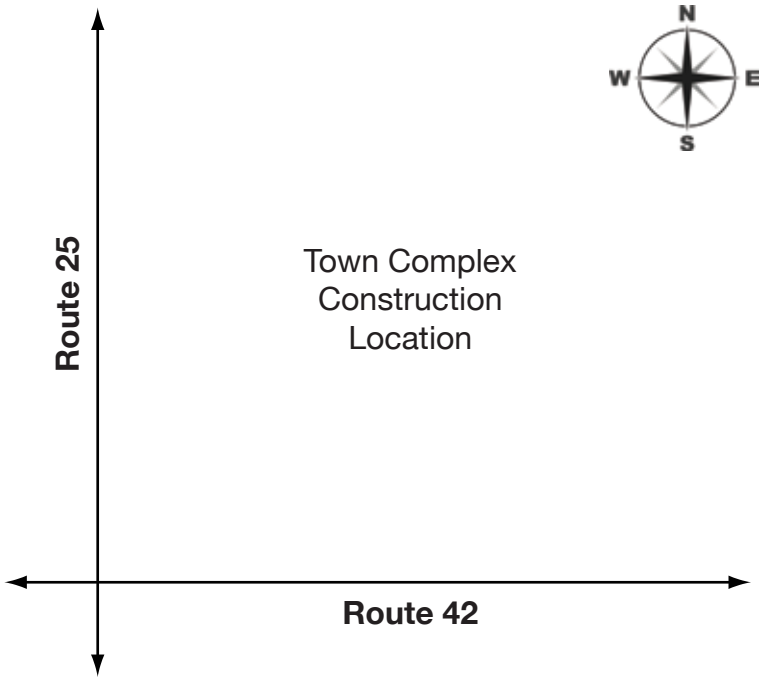
COMMUNITY STAKES

Group Worksheet

Directions

The fire station and parking lot and town office parking lot are already drawn on the coordinate graph, but you must label the main reference marker points and dimensions of these structures based on the data provided. A reference marker is a location on the structure that helps to locate the building on the site. These are usually corners of the structure or where two structures meet. These markers become reference points on the graph to help the engineering surveyor place the building in the correct location on the site plans.

When graphing, use 1 tick on the graph for every 10 feet. For example, the coordinates (1, 1) represent 10 feet along Route 42 from the intersection and 10 feet along Route 25 from the intersection.



Police Station

What are the coordinates for the southwest corner of the police station?

(4, 3)

On the graph, how many ticks represent the width of the police station?

70 ÷ 10 = 7

On the graph, how many ticks represent the length of the police station?

100 ÷ 10 = 10

Town Hall

What are the coordinates for the center of the town hall rotunda?

(27, 10)

What is the diameter of the town hall rotunda?

60 feet

How many ticks equal 60 feet?

60 ÷ 10 = 6 ticks.

The rotunda will be represented by a circle on the graph. What point on the circle is directly east of the center point?

(30, 10)

What point on the circle is directly west of the center point?

(24, 10)

What point on the circle is directly north of the center point?

(27, 13)

What point on the circle is directly south of the center point?

(27, 7)

Draw a circle to represent the rotunda on the graph. Label the coordinates of the center point.

The town hall has a wing south of the rotunda and a wing north of the rotunda. What is the width of the south wing?

30 – 25 = 5 ticks. 5 x 10 = 50 feet.

Draw and label the south wing of the town hall. Label the coordinates of the reference points.

What are the coordinates for the corners of the north wall of the north wing of the town hall?

(25, 19) and (30, 19)

Draw the north wing of the town hall. Label the coordinates of the reference points. Label the building, "Town Hall."

Find the length of the eastern wall. Explain how you found it. (This is the length that runs perpendicular to Route 42.)

The eastern wall points are (30, 1) and (30, 19). 19 – 1 = 18. 18 X 10 = 180.
The wall is 180 feet long.

Town Hall Parking Lot

Based on the graph, what are the coordinates of the reference markers for the four corners of the town hall parking lot?

(25, 22), (25, 34), (31, 22), (31, 34)

Based on the graph, what are the coordinates of the reference markers for the southern entrance?

(25, 22) and (25, 24)

Based on the graph, what are the coordinates of the reference markers for the northern entrance?

(25, 31) and (25, 29)

