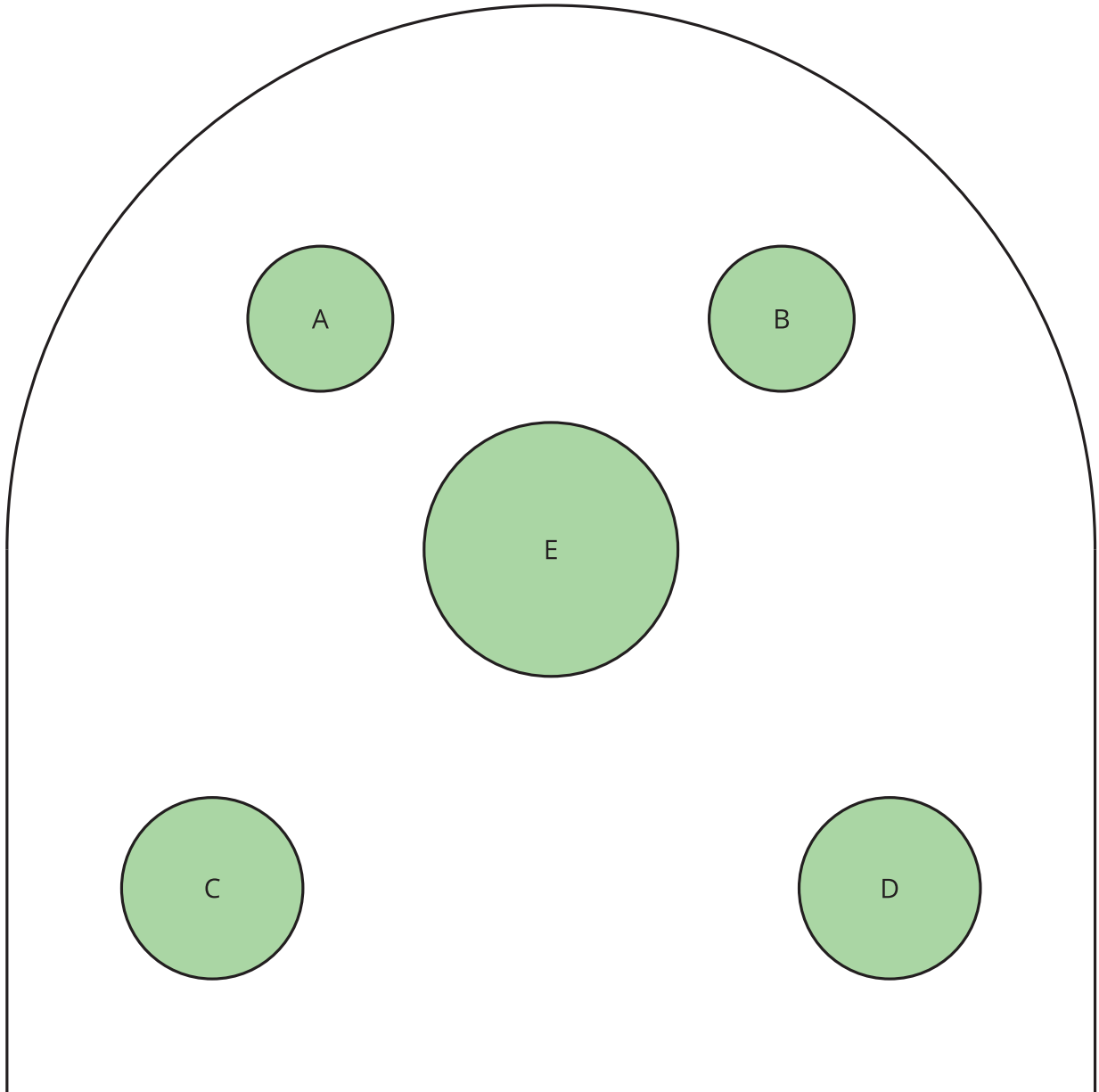


Designing a Fountain

A nearby park has a decorative pool, and the board of commissioners of the park is considering installing water jets in the pool to make it into a fountain. They have asked you to design the water jets. Here is a diagram of the pool from above:



A and B are statues which are 4 feet tall. C and D are wider statues which are 5.5 feet tall. E is a statue with a vase on top, which is 8 feet tall. The diagram is drawn to scale, and the pool is 15 feet wide.

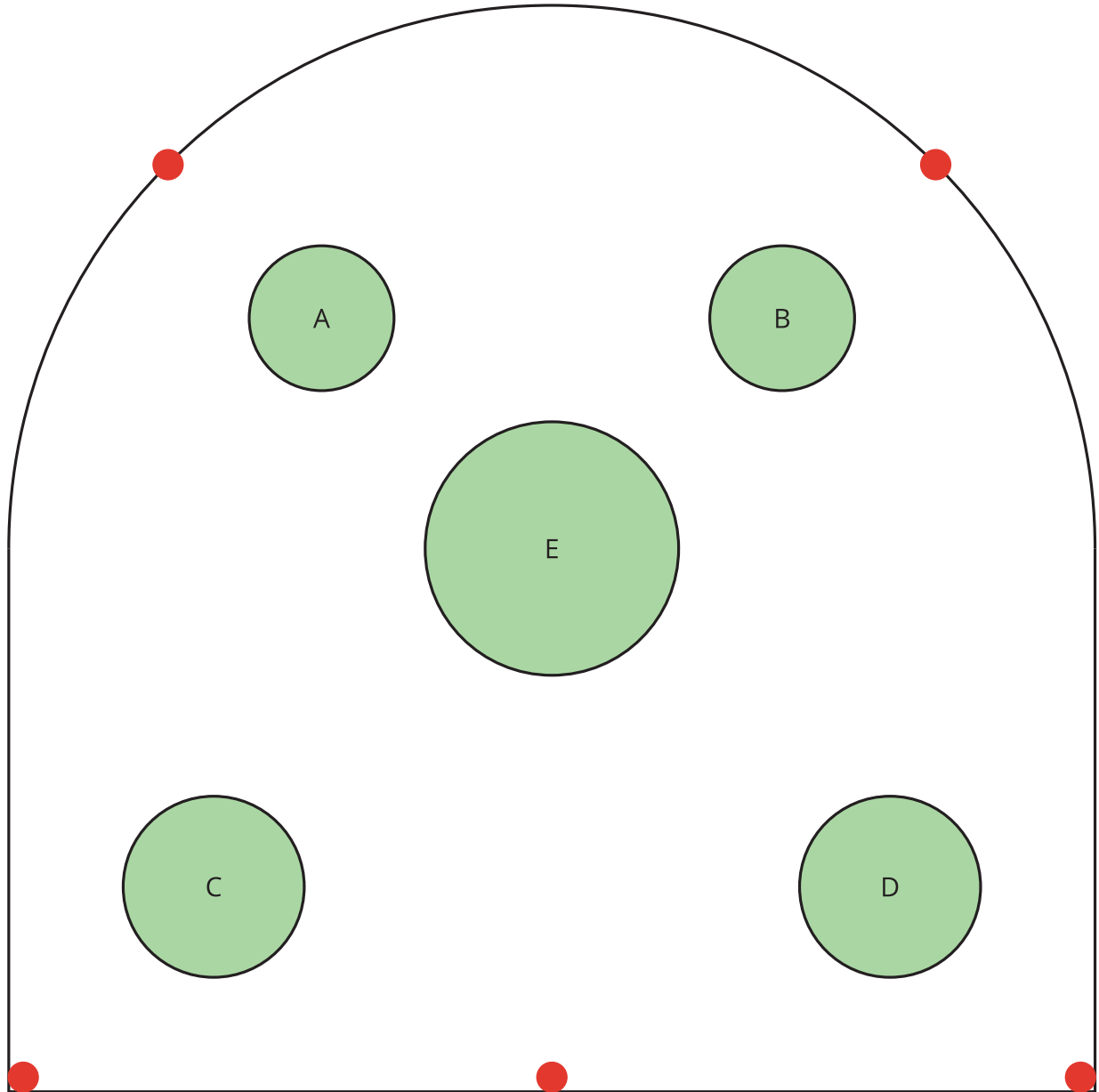
The jets will be at water level. You will need to figure out how many jets there should be, where they should go, and what path the water should make. Your design needs to meet these criteria:

- jets can only be placed on the edge of the pool
- there must be at least two jets
- the water can't hit any of the statues
- some water must go into the vase
- the water can't go higher than 10 feet

When you have your final design, you should create a presentation to explain it to the commissioners. The presentation should show the paths of the water and include your mathematical descriptions of the paths.

Designing a Fountain

A nearby park has a decorative pool, and the board of commissioners of the park is considering installing water jets in the pool to make it into a fountain. They have asked you to design the water jets. Here is a diagram of the pool from above:



A and B are statues which are 4 feet tall. C and D are wider statues which are 5.5 feet tall. E is a statue with a vase on top, which is 8 feet tall. The diagram is drawn to scale, and the pool is 15 feet wide. The dots along the edge show where jets can be placed. You don't have to put jets in all five places. The jets will be at water level.

You will need to figure out how many jets there should be, where they should go, and what path the water should make. Your design needs to meet these criteria:

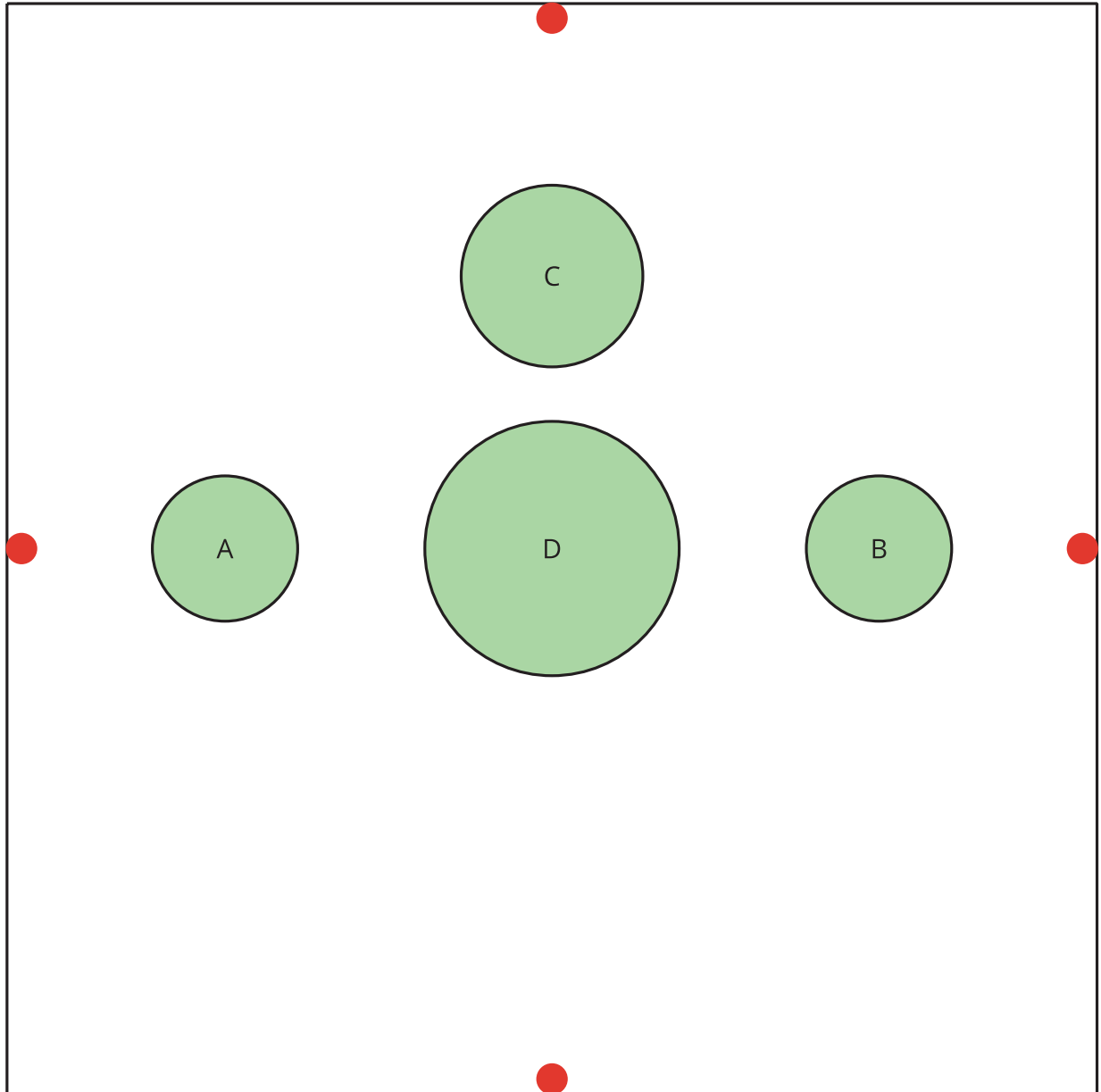
- the jets can only go in the places indicated by the dots
- there must be at least two jets
- the water can't hit any of the statues
- some water must go into the vase
- the water can't go higher than 10 feet

When you have your final design, you should create a presentation to explain it to the commissioners. The presentation should show the paths of the water and include your mathematical descriptions of the paths.

Before you begin your design, sketch a side view of the pool showing the heights of the statues and the vase. This will help you figure out the paths of the water.

Designing a Fountain

A nearby park has a decorative pool, and the board of commissioners of the park is considering installing water jets in the pool to make it into a fountain. They have asked you to design the water jets. Here is a diagram of the pool from above:



A and B are statues which are 4 feet tall. C is a wider statue which is 5.5 feet tall. D is a statue with a vase on top, which is 8 feet tall. The diagram is drawn to scale, and the pool is 15 feet wide. The dots along the edge show where jets can be placed. You don't have to put jets in all four places. The jets will be at water level.

You will need to figure out how many jets there should be, where they should go, and what path the water should make. Your design needs to meet these criteria:

- the jets can only go in the places indicated by the dots
- there must be at least two jets
- the water can't hit any of the statues
- some water must go into the vase
- the water can't go higher than 12 feet

When you have your final design, you should create a presentation to explain it to the commissioners. The presentation should show the paths of the water and include your mathematical descriptions of the paths.

Before you begin your design, sketch what the pool would look like from each side. Make sure to show the heights of the statues and the vase. This will help you figure out the paths of the water.

To help you get started, here is part of one sketch, showing the widths of A, B, and D. It shows what the pool would look like if you were standing near the bottom of the diagram of the pool from above. It also shows the jet locations next to A and B. Figure out how high A, B, and D should be according to the scale of this sketch, and then finish the sketch by representing their heights. Then make your own sketches for the other sides of the pool.

