Scaffolded Practice 2.1.3

Example 1

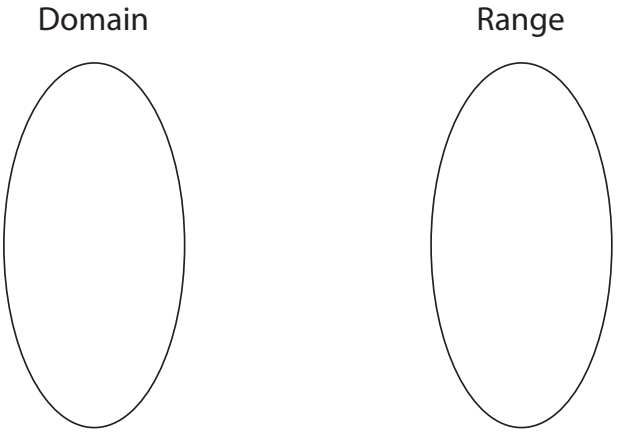
Is the relation below a function? Use a mapping diagram to determine your answer.

{(–2, 4), (–1, 1), (0, 0), (1, 1), (2, 4), (3, 9)}

1. Find the domain of the first relation.

2. Find the range of the relation.

3. Map the elements in the domain to the corresponding elements in the range.



4. Analyze the mapping.

continued

Example 2

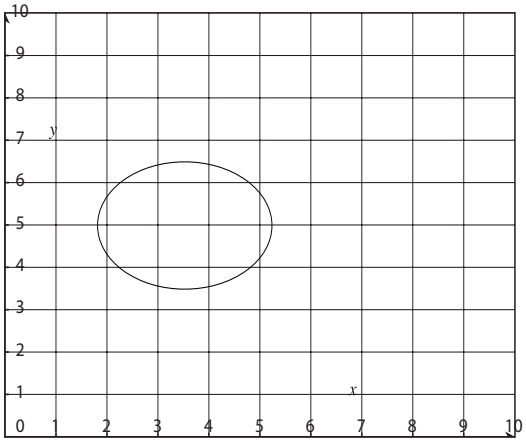
Is the relation below a function? Use a mapping diagram to determine your answer.

{(4, –5), (1, –3), (0, 0), (1, 1), (4, 5), (9, 3)}

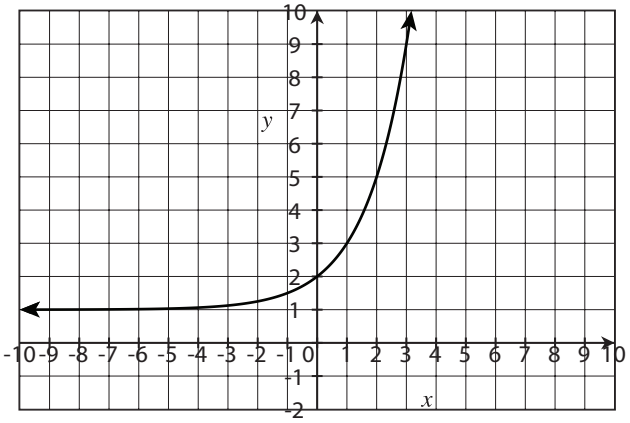
Example 3

Use the vertical line test to determine if each relation is a function.

Graph A



Graph B



Example 4

Omar has decided to take yoga classes for one year. The yoga studio costs $10 to join and then each yoga class is $5. Omar's fees can be represented by the function $f(x) = 5x + 10$. What are the domain and range of the function?

continued

Example 5

Identify the domain and range of the function $f(x) = 2^x$. Use the graph below.