

Q1.

- a) True, A queue mimics people in a grocery line. First in first out.
- b) False. The element in the queue the longest is the one next to get out.
- c) True. If five people enter a line at the grocery store and those five people get served, there will be nobody left in the queue.
- d) False. The `isEmpty()` only returns a Boolean telling us whether the queue is empty or not. Its an observer.
- e) True. The `enqueue()` in a transformer. It adds elements to the queue.
- f) False. The `isEmpty()` is an observer. It does not change values.
- g) True. The `dequeue()` removes a value from the queue.
- h) True. Since this is a FIFO, elementA will be in the front.

Q16.

- a) True. The objects are both of the same class, and the radius values are equal and they are both not null.
- b) False. They are almost equal but almost is never true. I am almost a 6 foot man but I am not equal to a 6 foot man in height.
- c) False. This statement means that they are multiples of each other but not necessarily equal.
- d) False. An integer's defining feature is its value. So if they are multiple of each other, it means they are not equal.

Q12.

- a) With the `add()` method, the method throws an exception if you attempt to add a value at an index of the array that is out of bounds. Otherwise it inserts the element to the list at the index specified. Other elements of the specified index are all shifted (or have one added to their index value).
- b) With the `set()` method, the method throws an exception if you attempt to add a value at an index of the array that is out of bounds. Otherwise it replaces the element at the index indicated in the method and returns the placed value.
- c) `LinkedList add()`, we don't want to add an element in front or after the dummy element we have inserted to indicate the start and ends of the list. We can use an if statement to check the current value. We also don't want to add to an empty list.
- d) `LinkedList remove()`, we can set up a dummy method to mark the end and start of the list so we do not remove the first and last values in the list.