**Question 1**

In the context of causal research, we say that there is a systematic bias if there is an association between exposure and outcome that does not arise from the causal effect of exposure on outcome.

1. True
2. False

**Question 2**

In general, which conditions must be met for a variable to be a confounder according to traditional (i.e., non-structural) definitions of a confounder? (Choose all that apply)

1. The variable needs to be associated with the exposure.
2. The variable needs to be associated with the outcome.
3. The variable must not be in the causal pathway between exposure and outcome.
4. There is a backdoor path from the confounder to the outcome

Taken from chapter 5 exercises in Szklo.

**Question 3**

The traditional definition of a confounder is sufficient to control confounding in epidemiologic research.

1. True
2. False

With the help of causal graphs, we can see that there are situations where the traditional criteria and structural definitions of confounding sometimes agree. However, we can also identify situations in which they don’t agree. For example, when the traditional criteria for confounding are met, but adjusting for that variable will actually introduce bias into our effect estimates.

**Question 4**

Any arrow-based route between two variables on a causal graph. Some follow the direction of the arrows and some do not.

1. DAG
2. Confounder
3. Cause
4. Path
5. None of the above

**Question 5**

A \_\_\_\_\_\_ between exposure and outcome is a path that connects exposure and outcome without using any of the arrows that leave from the exposure.

path

1. backdoor path
2. causal path
3. confounded path
4. None of the above

**Question 6**

We can identify the causal effect of the exposure on the outcome if we have sufficient data to block all backdoor paths between exposure and outcome.

1. True
2. False

This is known as the backdoor path criterion.

**Question 7**

Confounding can be defined as a source of bias that arises from a shared cause of exposure and outcome.

1. True
2. False

**Question 8**

\_\_\_\_\_\_ rules tell us whether a given path is blocked or open.

1. Pearl’s
2. Path
3. D-separation
4. Confounding

**Question 9**

A \_\_\_\_\_\_ is a variable that, possibly together with other variables, can be used to block all backdoor paths between treatment and outcome.

1. Confounder
2. Mediator
3. Separator
4. Cause