## Triangle Decomposition Worksheet

1. Consider this graph.

(a) How many edges does it have?
(b) Does it have any odd degree vertices?

YES NO
(c) Is there a triangle decomposition?

YES NO Why or why not?
2. Consider this graph.

(a) How many edges does it have?
$\qquad$
(b) Does it have any odd degree vertices?

YES NO
(c) Is there a triangle decomposition?

YES NO Why or why not?
3. Draw a graph that has a multple of 3 many edges, only even degrees, but has no triangle decomposition. Briefly explain why.

