

# Homework 5

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CSC 565 - Graph Theory

March 1, 2018

**Question 1.** Problem 4.1.8, text. For each  $k$ , which graphs are  $k$ -connected? Which are  $k$ -edge connected?

The Hexagon

$\kappa$ : 4

$\kappa'$ : 4

$\delta$ : 4

4-connected? Yes

4-edge-connected? Yes

The Other one

$\kappa$ : 2

$\kappa'$ : 4

$\delta$ : 4

4-connected? Yes

4-edge-connected? Yes

**Question 2.** Prove or disprove: In a simple graph, every closed even trail of length more than 3 contains an even cycle.