

Math 152 – Spring 2016 – In-class Group Assignment 13 – March 28, 2016.

Assuming flow in an artery follows Poiseuille's law, what proportional increase in blood pressure (ignore the differences between systolic and diastolic pressure – just assume a single average pressure over a period of a heartbeat) would be required to maintain the same flow rate through the artery if it had a build up of plaque material along the artery wall that reduced its diameter by 30% (that is, the diameter is 70% of what it would have been without any build-up of plaque along the wall of the artery).