IN-CLASS TEST #1 INFORMATION

When? Thursday, October 4, 2018 for the entire class.

There will be two differently coloured versions. Please, make sure that your neighbours to the left and to the right do not have the same test as you.

Format. 5 questions each worth 10 points.

Topics:
- **Vectors**: algebraic properties (addition, multiplication by a scalar, components), magnitude, geometric interpretations and applications;
- **Dot Product**: geometric and algebraic definitions, properties (commutative, linear, magnitude), Pythagorean theorem, projections, orthogonal decomposition, Cauchy-Schwarz inequality, triangle inequality;
- **Cross Product**: right-hand rule, geometric and algebraic definitions, properties (linear, alternating), volume of a parallelepiped;
- **Lines and Planes**: normal vectors, equations of planes, distance from a point to a plane;
- **Linear Systems**: definition, solutions, elementary row operations;
- **Matrices**: RREF, Gauss-Jordan elimination.

How to study? Review your notes and read the sections in the book. Make sure you can solve quickly and efficiently the basic examples in the book. Review the homework assignments and make sure you understand the solutions. While the homework problems are in general too long (or too difficult) for a test, part of or ideas from these problems may appear on the test.