

Name: Solution

CWID: _____

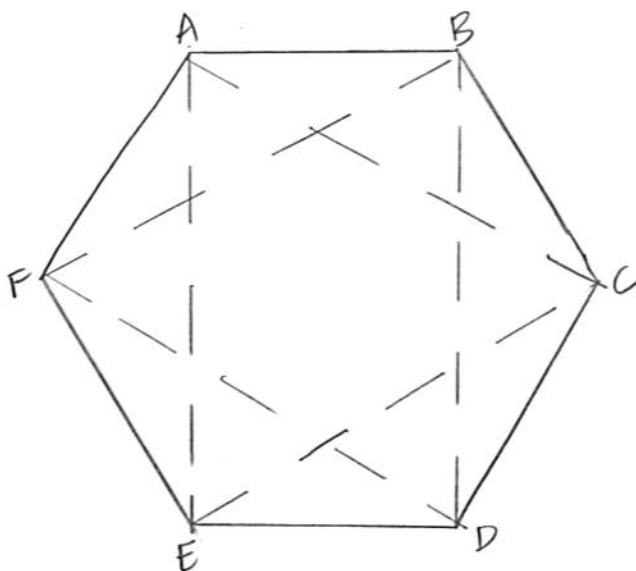
Email: _____

Math Question of the Week

Week 3

Please complete the problem and show your work on THIS paper. You may submit your solution by Friday 9/16 at 5 pm in the MATH OFFICE (BIN 306)

Three vertices of a regular hexagon are randomly selected. What is the probability that an isosceles triangle would be formed by connecting these three vertices?



Isosceles triangles are $\triangle ACE$, $\triangle BFD$, $\triangle ABC$, $\triangle BCD$, $\triangle CDE$, $\triangle DEF$, $\triangle EFA$, $\triangle FAB$

8 possible isosceles triangles.

Total number of triangles = $\binom{6}{3} = 20$

$$\frac{8}{20} = \left[\frac{2}{5} = 0.4 = 40\% \right]$$