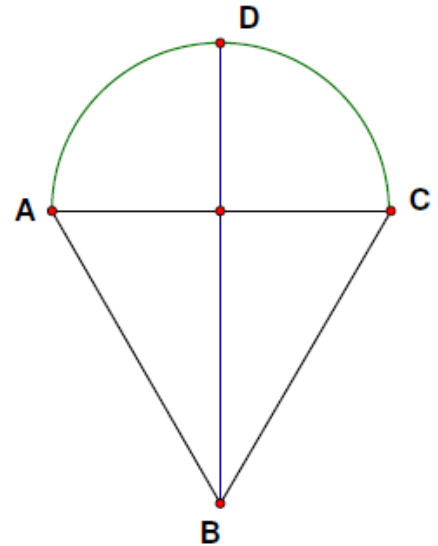


Advanced Math
Problem Solving #7
Quarter 1

1. A semicircle is adjoined to one side of equilateral $\triangle ABC$ as shown. The midpoint of the semicircle is labeled D. Given that $BD = 1$, what is the length of each side of the equilateral triangle?



2. Matt wants to mail a package that requires \$1.53 in postage. If he only has 5-cent and 8-cent stamps, what is the smallest number of stamps he could use that would total exactly \$1.53?

3. If the sum of two numbers is 7 and the sum of their squares is 65, what is the sum of their cubes?

4. How many sides does a regular polygon have if all its interior angles measure 162° ?