

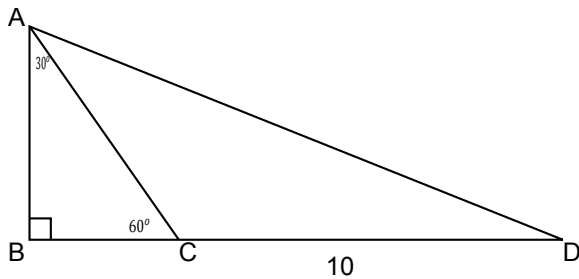


Intermediate Math Circles

November 18, 2015

Problem Set

1. The perimeter of a right isosceles triangle is $10 + 5\sqrt{2}$ cm. What is the area of the triangle.
2. An equilateral triangle has side length 4m. What is the area of the triangle.
3. I believe that there are 12 different Pythagorean Triples which contain a 60. List as many of them as you can find.
4. The area of $\triangle ACD$ is 30. $CD=10$. What is the area of $\triangle ABD$?



5. $\triangle ABC$ has area 300. D divides AB in the ratio 3:1. (i.e. $AD:DB=3:1$) E divides BC in the ratio 1:4. AE and CD intersect at F. The area of $\triangle AFD$ is 10. Find the area of quadrilateral BDFE.