

Name:

Math Olympiad Exploring! – Problem Due: – March 18, 2004

Barking Dogs

Mrs. Rodgers is trying to get some sleep. She went to bed at 11pm. At the same time, three dogs start barking in the night. Her right next-door neighbor's dog Fluffy thinks she sees a cat every five minutes and barks accordingly. Rover across the street is left alone in the house with a smoke detector that has a low battery. When he sees the light flash every three minutes, he barks too. Lastly, there is Max. He barks every four minutes, just because he thinks he sings well and wants to test out his voice.

Question: Mrs. Rodgers sleeps well, but wakes with a fright at midnight. Why?

Question: How many minutes have passed? What is $3 \times 4 \times 5$? How often would Max have to bark if you wanted Mrs. Rodgers to wake up at 3am?