Problem 3. Parallel lines ℓ and m and a point P are in the plane. Point P lies between ℓ and m and is 3 units from ℓ and 7 units from m. A right triangle is constructed with one vertex on ℓ, one vertex on m, and right angle at P. What is the minimum possible area of this triangle?

What is the answer if P is not between ℓ and m?

Solutions due by 12:00 noon, Monday, February 3.