MATH 251 (PHILLIPS) QUIZ 4, 19 May 2025. 20 minutes; 20 points.

NAME: _____ Student id: _____

Standard exam instructions apply. In particular, no calculators, no communication devices, and no notes except as 3×5 file card, written on both sides. Also, all notation must be correct, with "=", "lim", etc. everywhere they are supposed to be, and nowhere they are not supposed to be. Write answers on this page. Use the back if necessary.

(20 points) A circular puddle of water on a hot sidewalk in Needles CA is evaporating. At 2:00 pm, it had a radius of 10 inches, and its radius was decreasing at 3 inches per hour. At that time, was its area increasing or decreasing? At what rate? (Be sure to include the correct units in your answer.)