Quiz #4

MATH 126-101 — Calculus II
Thursday, Sept 17, 2026

Please print your name:

Problem 1. A conical container of radius 10 ft and height 20 ft is completely filled with water (the tip of the cone is at the bottom). Water weighs 62.4 lb/ft^3.

Below, you are being asked to write down integrals. **Do not evaluate these integrals.**

(a) Write down an integral for how much work it will take to pump the water to a level of 5 ft above the cone's rim.

(b) Now, suppose instead that the container is initially only filled to a height of 15 ft. Again, write down an integral for how much work it will take to pump the water to a level of 5 ft above the cone's rim.

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