

$$W = \int_0^{60} (70 + .55x) dx \quad W = FD$$

$$5190 \text{ ft}\cdot\text{lb}$$

$$70 \text{ lb} \quad 60 \text{ ft}$$

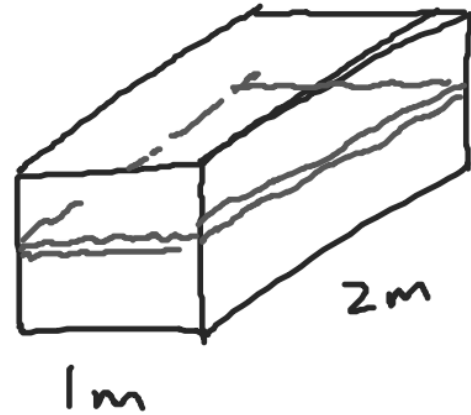
$$4200 + \int_0^{60} (33 - .55x) dx \quad 4200 \text{ ft}\cdot\text{lb}$$

$$\frac{35 \text{ lb}}{60 \text{ ft}} = \frac{7 \text{ lb}}{12 \text{ ft}}$$

$$\int_0^{60} \left(70 - \frac{7}{12}x + 0.55x \right) dx$$

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$$\int_0^{1/2} \sum_{n=0}^{1/2} x (2 \cdot 1 \cdot \Delta x \cdot 1000 \cdot 9.8) \, m$$



$$= \int_0^{1/2} 19600 x \, dx$$

$$= 2450 \, \text{J}$$

v

m

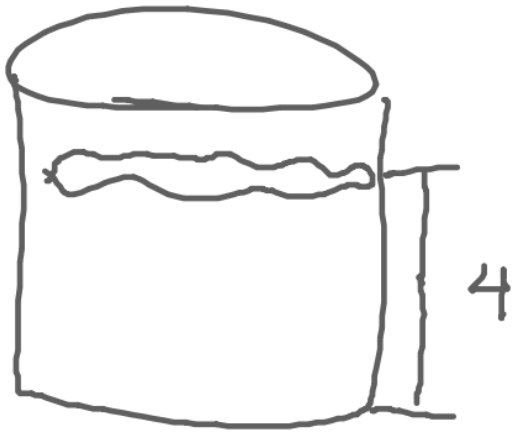
F

W

20

108,000 π FT-lb.

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$$\int_1^5 62.5 \cdot \pi \cdot 12^2 x \quad dx$$

DENSITY
OF
WATER

(INCLUDES
GRAVITY
IN S.I.)

$$= \int_1^5 9000 \pi x \, dx$$

108,000 π FT-lb.

9) 2 J of Work to go from 30 cm to 42 cm

$$W = \int_{0.05}^{0.1} kx \, dx$$

$$= \int_{0.05}^{0.1} 277.78x \, dx$$

$$\approx 1.04 \text{ J}$$

$$2 = \int_0^{0.12} kx \, dx$$

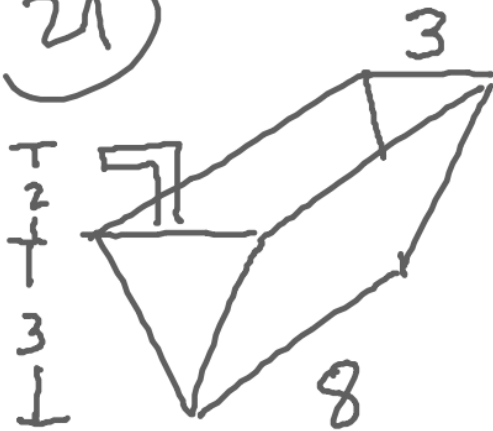
$$2 = k \frac{x^2}{2} \Big|_0^{0.12}$$

$$2 = \frac{k(0.0144)}{2}$$

$$4 = 0.0144k$$

$$277.78 = k$$

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$$V = Lw \\ = 8x dx$$

LET $x = \text{DEPTH}$

$$\therefore W = \int_0^3 \underbrace{8x dx}_V \cdot \underbrace{1000}_{\text{den}} \cdot \underbrace{9.8}_a \cdot \underbrace{(5-x)}_{\text{DIST}}$$
$$= \boxed{1058400 \text{ J}}$$