

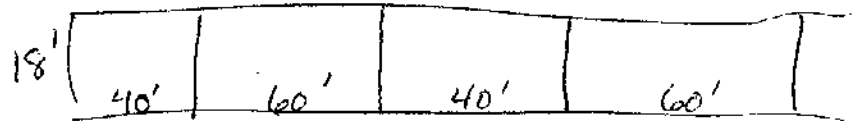
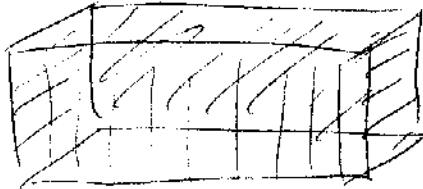
Agriculture
Surface Area Quiz

Name

Key

1. A farmer wants to paint the outside of a 60 feet x 40 feet x 18 feet workshop (not including the roof). What is the square footage to be painted? If paint cost \$25.99 a gallon and covers 350 sq ft, how much will the paint cost?

only painting walls of building



$$60 \times 18 \times 2 = 2160$$

$$40 \times 18 \times 2 = 1440$$

$$\underline{\underline{3600 \text{ ft}^2}}$$

$$3600 \text{ ft}^2 \cdot \frac{1 \text{ gal}}{350 \text{ ft}^2} = 10.3$$

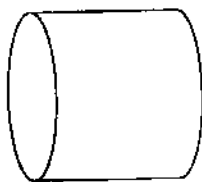
Need 11 gallons paint

$$\$25.99 \times 11 \text{ gal} = \underline{\underline{\$285.89}}$$

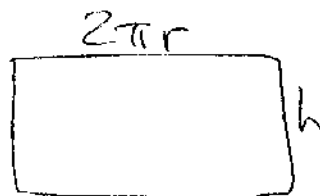
2. Al owns a round baler that will net wrap the bale in a plastic sleeve (not the ends). The bales are 120 cm width and 100 cm in diameter. What is the lateral area of the hay bale (surface area minus the ends)? If the net sleeve is wrapped twice and the cost of the net is \$248.00 for a 48" x 9840' roll of wrap, how many hay bales will one roll cover? How much would it cost to wrap 750 hay bales?

1 inch = 2.54 cm, 1 foot = 12 inches

diameter
100 cm



120 cm



$$120 \text{ cm} \cdot \frac{1 \text{ in}}{2.54 \text{ cm}} = 47.2 \text{ in}$$

$$100 \text{ cm} \cdot \frac{1 \text{ in}}{2.54 \text{ cm}} = 39.4 \text{ in}$$

$$r = 19.7 \text{ in}$$

$$A = 2\pi r h$$

$$A = 2\pi (19.7)(47.2)$$

$$\boxed{A = 5842.4 \text{ in}^2}$$

$$C = \pi d$$

$$C = \pi (39.4)$$

$$C = 123.8 \times 2 \text{ (wrap twice)}$$

$$C = 247.6 \text{ in}$$

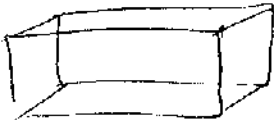
$$247.6 \text{ in} \cdot \frac{1 \text{ ft}}{12 \text{ in}} = 20.6$$

$$9840 \text{ ft} \div 20.6 \text{ ft} = 477.7$$

$$750 \div 477 = 1.6 \text{ Need 2 rolls of wrap } \$248 \times 2 = \underline{\underline{\$496}}$$

477
Bales

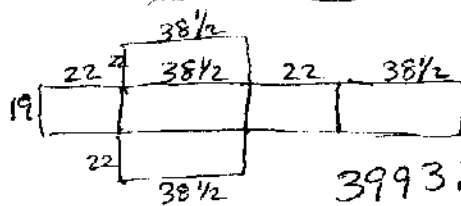
3. A rectangular fuel tank has dimensions, $38\frac{1}{2}$ " x 22" x 19". If you are painting the tank, how many square feet of material will need to be painted? If the paint costs \$12.99 a quart and covers 150 square feet, how much will it cost to paint the tank with 2 coats of paint?



$$38\frac{1}{2} \times 22 \times 2 = 1694 \text{ Top + Bottom}$$

$$38\frac{1}{2} \times 19 \times 2 = 1463 \text{ Front + Back}$$

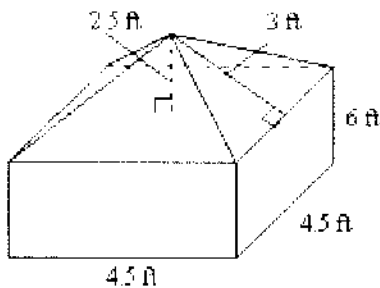
$$22 \times 19 \times 2 = 836 \text{ Sides}$$



$$SA = 3993 \text{ in}^2$$

$$3993 \text{ in}^2 \cdot \frac{1 \text{ ft}^2}{144 \text{ in}^2} = 27.7 \text{ ft}^2 \times 2 \text{ coats} = 55.4 \text{ ft}^2$$

4. Find the surface area of the figure to the nearest whole number.



- a. 310 ft² b. 155 ft² c. 135 ft² d. 74 ft²

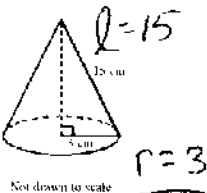
$$(4.5)(6) = 27 \times 4 \text{ sides} = 108 \text{ ft}^2$$

$$4.5^2 = 20.25 \text{ ft}^2 \text{ (bottom) top not part of surface}$$

$$\frac{1}{2}(4.5)(3) = 6.75 \times 4 \Delta s = 27 \text{ ft}^2$$

$$SA = 108 + 20.25 + 27 = 155.25 \text{ ft}^2 \quad \underline{\underline{155 \text{ ft}^2}}$$

5. Find the surface area of the cone in terms of π .



$$\pi r l + \pi r^2$$

$$\pi(3)(15) + \pi 3^2$$

$$45\pi + 9\pi = 54\pi \text{ cm}^2$$

- a. 54π cm² b. 99π cm² c. 51π cm² d. 49.5 cm²