Workplace 10: Notes Name: _____

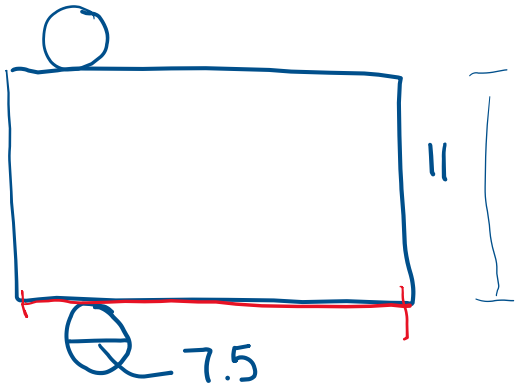
Surface Area of a Cylinder

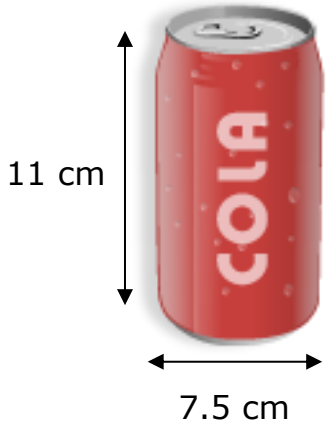
1. a) The net of a cylinder is made up of one rectangle and two circles.

b) The width of the rectangle in the net of a cylinder is equal to the circumference of the circle.

2. The radius of a circle is half the diameter.

3. Draw a net to help find the surface area of the can.

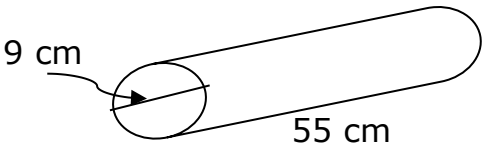




The formula to find the surface area of a cylinder is …

$$SA = 2\pi r^2 + \pi dh$$

Calculate the surface area of this cylinder to the nearest tenth of a square centimeter.

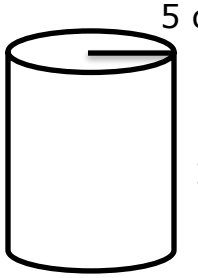


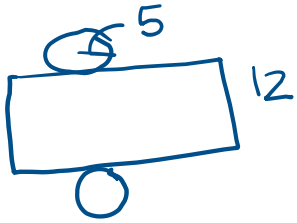
$SA = 2\pi r^2 + \pi dh$

circles $= 2\pi 4.5^2 + \pi \times 9 \times 55$

$= 1682.32 \text{ cm}^2$

Find the surface area and draw the net with the dimensions labeled.



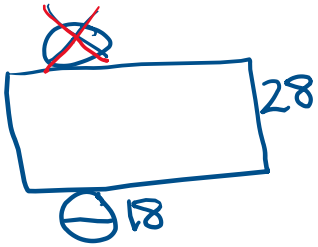


$SA = 2\pi r^2 + \pi dh$

$= 2\pi 5^2 + \pi \times 10 \times 12$

$= 534.07\ cm^2$

Calculate the surface area of a cylindrical waste bucket *without* a lid that measures 28 cm high and 18 cm in diameter. Give your answer to the nearest square centimetre.



$SA = ~~2~~\pi r^2 + \pi dh$

$= \pi 9^2 + \pi \times 18 \times 28$

$= 1837.83\ cm^2$

What if … SA = 904.78 ft^2, r = 9 ft …. What is the height of the cylinder?

$SA = 2\pi r^2 + \pi dh$

$904.78 = 2\pi 9^2 + \pi \times 18 \times h$

$904.78 = 508.94 + 56.55h$ *get h by itself

$-508.94 \quad -508.94$

$\frac{395.84}{56.55} \quad \frac{56.55h}{56.55}$

$7 = h$

7 ft