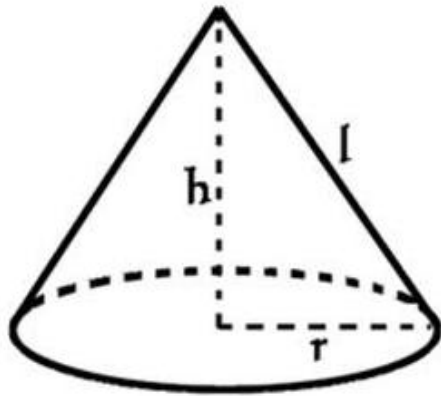calculate the surface area and volume of a right cone with a slant height of 2 feet and a base circumference of 10(pie) feet.

According to task:

l=2 feet

Solution:

Find surface area:

So the surface area of the cone equals the area of the circle plus the area of the cone and the final formula is given by:
S = πr² + πrl

Find r:

Circum=$2\pi r \rightarrow r = \frac{circum}{2\pi}$=1.59

Calculate surface area:

$S = \pi * 1.59^2 + \pi * 1.59 * 2 = 17.93 feets^2$

Find volume:

$V = \frac{S_b * h}{3}$

Find S_b:

$S_b = \pi r^2 = 7.94$

Find h from right triangle:

$h = \sqrt{l^2 - r^2} = 1.21$

Calculate volume:

$V = \frac{7.94*1.21}{3}$ =3.2$feets^3$