Formula Sheet for Math 151, Final Exam

Formulas for a circle: If R is the radius then

$$\text{area} = \pi R^2$$
$$\text{length of circumference} = 2\pi R.$$

Formulas for a sphere: If R is the radius then

$$\text{volume} = \frac{4}{3}\pi R^3$$
$$\text{area} = 4\pi R^2.$$

Volume of a pyramid:
$$\frac{1}{3}(\text{area of base})(\text{height}).$$

Formulas for a cone with circular base: If $R = $ radius of base and $H = $ height then

$$\text{volume} = \frac{1}{3}\pi R^2 H$$
$$\text{lateral area} = \pi R \sqrt{R^2 + H^2}.$$

The lateral area does not include the area of the base of the cone.

Formulas for a cylinder with circular base: If $R = $ radius of base and $H = $ height then
$$\text{volume} = \pi R^2 H$$
$$\text{lateral area} = 2\pi R H.$$

The lateral area does not include the areas of the two circular ends of the cylinder.