Applications of Radical Equations

Scientists use the Beaufort wind scale to approximate wind speed. The formula is $B = 1.69\sqrt{s + 4.45} - 3.49$, where B is the Beaufort number and s is the wind speed in miles per hour. To the nearest mile per hour, what is the approximate wind speed if the Beaufort number is 6 ?

Mr. Johnson bought a conical camping tent for his 2 daughters. The radius of the circular base of the tent measures 4.5 ft, and the tent's lateral surface area is 110.6 ft^2. Use the formula $S = \pi r\sqrt{r^2 + h^2}$, where S is the lateral surface area and r is the radius, to find the height, h, of the tent, to the nearest tenth of a foot.

(Note: $\pi \approx 3.14$)