

1. A proposed circular parabolic dish antenna at a radio observatory has a diameter of 180 feet.

- (a) If we input a 150W, 60MHz signal and measure 90kW at its output, determine the antenna's reflective efficiency.

$\eta =$

- (b) Given the reflective efficiency found in the previous part also applies at 200Mhz, determine the antenna gain at this new frequency.

Gain =

2. A monopole antenna is used to transmit a signal at a frequency of 450MHz. What is the required length of the monopole antenna?

Length =