USE LECTURE 9 FOR THE EQUATIONS!

RADAR – 1 CM – 1 M

PART 1: RADAR IMAGE CALCULATIONS:

* R = (TAO \* C) / (2 COS y)
* C = 300 MILLION (8 ZEROS)
* ANSWER COMES OUT IN METERS.

PART B: AZIMUTH RESOLUTION:

* R = (S \* LAMBDA) / L
* LAMBDA IS WAVELENGTH
* L IS ANTENNA LENGTH (CALLED D IN THE LAB)

PART C: SURFACE ROUGHNESS:

* SMOOTH: H < (LAMBDA) / (25 SIN Y)
* RAYLEIGH: H > (LAMBDA) / (4.4 SIN Y)
* INTERMEDIATE IS THE RANGE BETWEEN THE TWO.

FORSHORTENING IS WHAT IS HAPPENING IN Q9

PLACES WHERE THE WATER IS BLACK IS BECAUSE THE WATER IS ABSORBING THE WAVELENGTH.

THIS LAB DUE THE 21ST.