

1) Refer to the map above and interpolate the UTM coordinate (nearest m) for point A. Lines: $N=5,561,000 \mathrm{~m} ; \mathrm{S}=5,560,000 \mathrm{~m} ; \mathrm{W}=435,000 \mathrm{~m} ; \mathrm{E}=436,000 \mathrm{~m}$
2) Based on the UTM coordinates calculate the distance between the 2 points.
3) What is the scale of the map above?
4) What is the slope in \% and in degrees between points A\&B?
5) Using the UTM coordinates, calculate the bearing between points $A \& B$ ?
6) Express $1 "=1 / 2$ mile as a representative fraction
7) 4 inches on a map corresponds to 3.6 km on the ground. What is the map scale?
8) You have a $1: 20,000$ map and a photo with an unknown scale. The distance between 2 features is 4.5 cm on the map and 3.85 cm on the photo. What is the scale of the photo?
9) Slope distance between two points is 95 m ; slope is $65 \%$. Determine the HD and elevation change between the two points. What would the "plotting distance" be (nearest 0.1 cm ) for a $1: 5,000$ map?
10) What is the scale for a photo with $f=15 \mathrm{~cm}$ and $H=18,000 \mathrm{ft}$ ?
11) Determine the altitude for the plane to obtain 1: 10,000 scale photos with 305 mm lens. Assume a ground elevation of 320 m .
12) You have a $1: 10,000$ contour map with a 25 m contour interval. You need to plot a trail (grade line) at 10\%. Calculate the "contour spacing" you would use to plot the trail.
