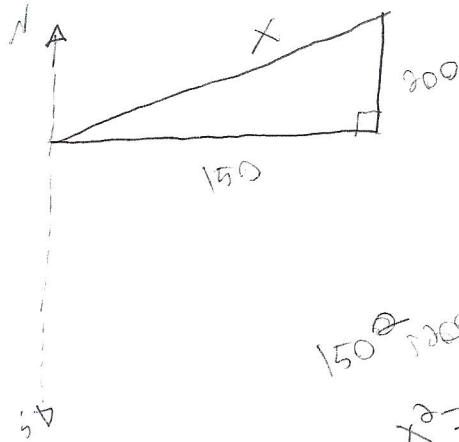


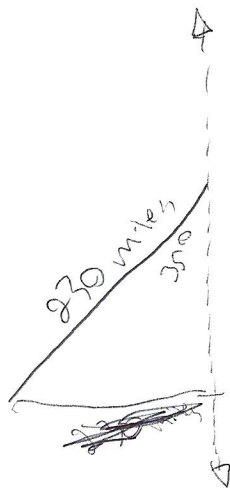
Right Triangle Trig Bearing Problems

Give answers for distances rounded to 4 significant digits; give answers for angles in degree/minute/second form rounded to the nearest whole numbers.

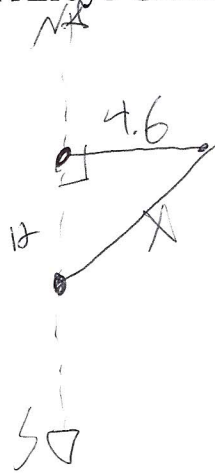
1. A pilot travels to a city that is 150 miles east and 200 miles north of his present location. Find the distance that the plane must travel and the bearing the pilot should use.



2. A ship leaves port and travels at a bearing of S 35° W for 230 miles. How far west did the ship travel? How far south did the ship travel?

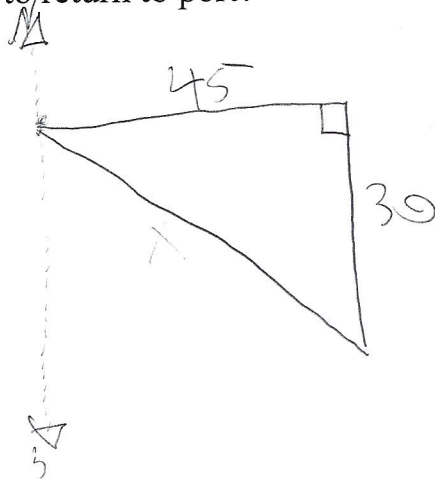


3. San Luis Obispo, California is 12 miles due north of Grover Beach. If Arroyo Grande is 4.6 miles due east of Grove Beach, what is the bearing of San Luis Obispo from Arroyo Grande?



$$\tan X = \frac{12}{4.6}$$
$$\tan^{-1}\left(\frac{12}{4.6}\right) = X$$
$$X =$$

4. A ship is 45 miles east and 30 miles south of port. The captain wants to sail directly to port. What bearing should be taken? How far does the ship have to travel to return to port?



$$\tan X = \frac{45}{30}$$
$$\tan^{-1}\left(\frac{45}{30}\right) = X$$
$$X =$$

5. A ship leaves its home port and sails on a bearing of N 29° 20' E. A second ship leaves the same port at the same time and sails on a bearing of S 60° 40' E. If the first ship sails at 32 mph and the second ship sails at 29 mph, find the approximate distance between the two ships after 3.5 hours.