ES302 In-Class Exercise   Name __Key__

Measuring Compass Bearings on the Monmouth 7.5-minute Quadrangle **1**
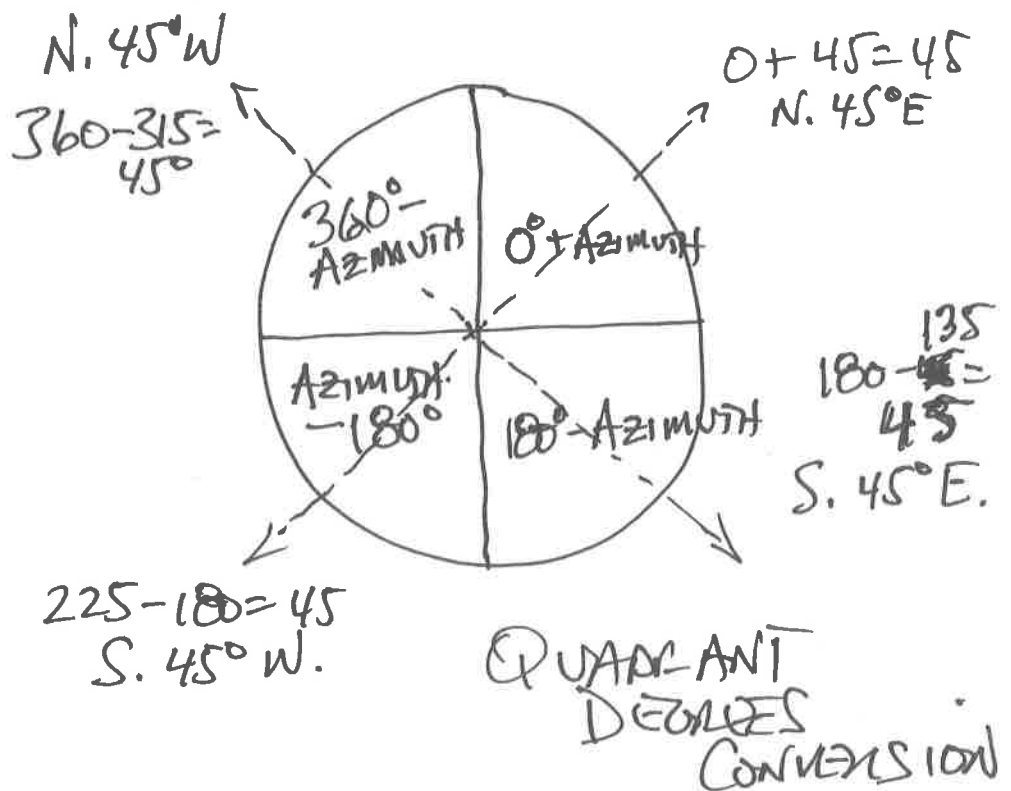
Examine the Monmouth Quad and locate the following three locations: Wigrich Spur south of Stapleton Road, Benchmark (BM) 266 at intersection of Haley Road and Highway 99W, and Oak Hill approximately **3** 1000 ft east of Johnson Hill.
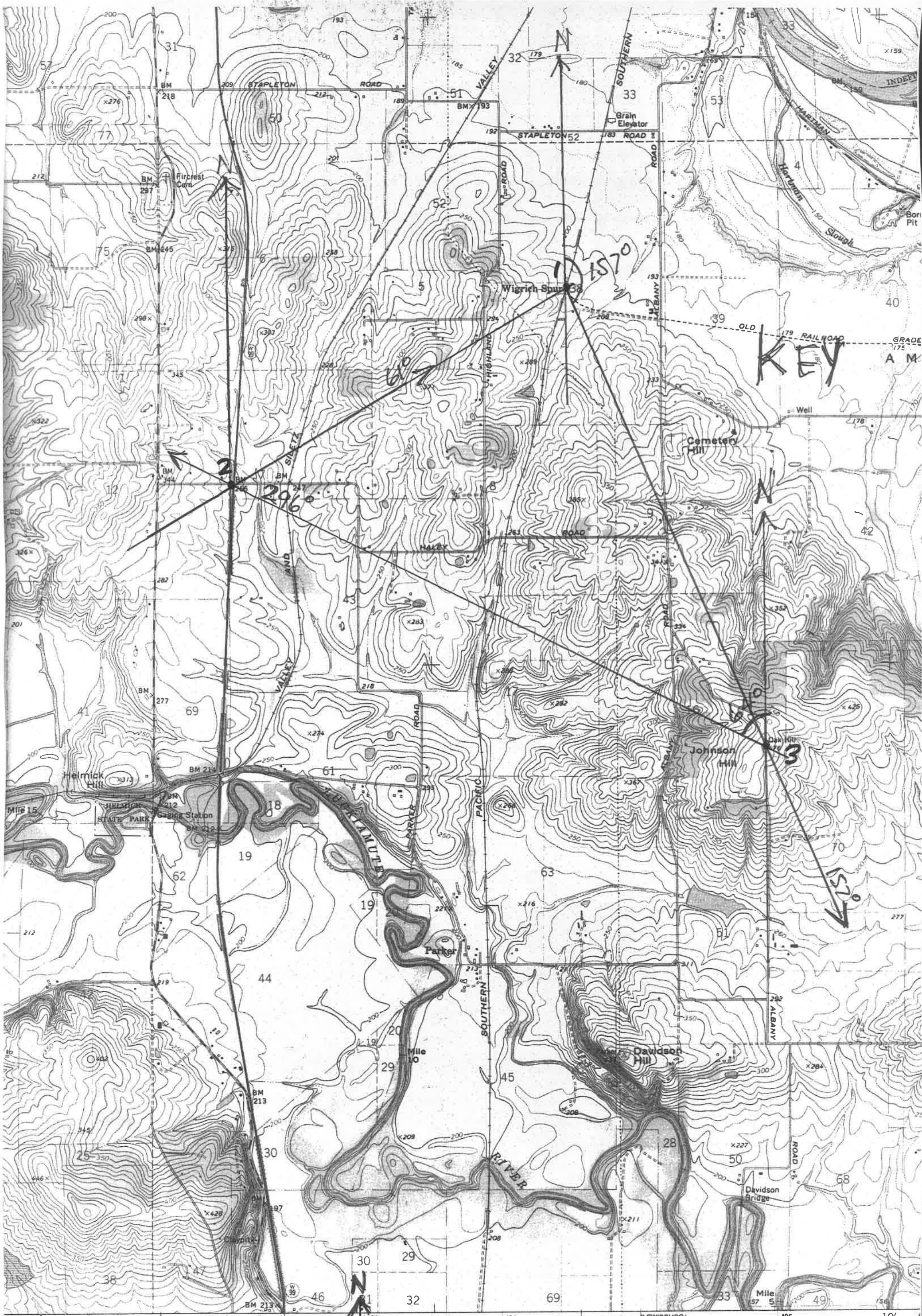
Using protractor and map skills, measure the following bearings between the landmarks listed, in both the quadrant and azimuth methods.

FROM_TO_LOCATION	Azimuth Bearing	Quadrant Bearing	
(1) Wigrich Spur to Oak Hill **(3)**	157°	S.23°E.	$180-157 = 23^\circ$ SE
(3) Oak Hill to BM266 **(2)**	296°	N.64°W.	$360-296 = 64^\circ$ NW
(2) BM266 to Wigrich Spur **(1)**	61°	N. 61°E	$0+61 = 61^\circ$ NE
(3) Oak Hill to Wigrich Spur **(1)** $157+180=$	337°	N.23°W	$360-337 = 23^\circ$ NW
(1) Wigrich Spur to BM266 **(2)** $61+180=$	241°	S. 61° W	$241-180 = 61^\circ$ SW
(2) BM266 to Oak Hill **(3)** $296-180=$	116°	S. 64°E.	$180-116^\circ = 64^\circ$ SE

SEE ATTACHED

MAP worksheet

N. 45°W

$360-315 = 45$

$0+45 = 45$
N. 45°E

360° – AZIMUTH   0 + AZIMUTH

AZIMUTH – 180°   180 – AZIMUTH

$180 - 135 = 45$
S. 45°E.

$225-180 = 45$
S. 45° W.

QUADRANT
DEGREES
CONVERSION
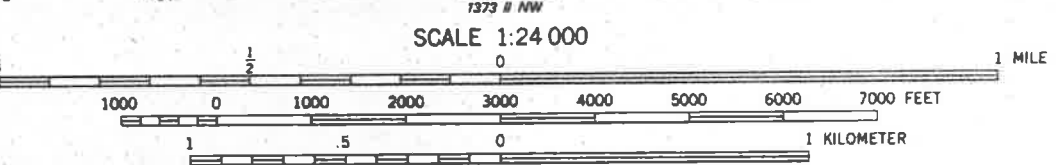
SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

KEY

N

1 157°

4° 2

2.0°

3 157°

157°

Wigrich Spur

Cemetery Hill

Johnson Hill

Davidson Hill

Davidson Bridge

Parker

Helmick Hill

HELMICK STATE PARK

Fircrest Com

STAPLETON ROAD

VALLEY ROAD

HIGHLAND ROAD

SOUTHERN PACIFIC

ALBANY ROAD

HALSEY ROAD

PARKER ROAD

LUCKIAMUTE RIVER

Grain Elevator

Well

R. 5 W   481   1 290 000 FEET R. 4 W   12'30"   484   (LEWISBURG)   486   10'

LEWISBURG 9 MI
CORVALLIS 14 MI

(LEWISBURG)
1373 II NW

1   ½   0   1 MILE

1000   0   1000   2000   3000   4000   5000   6000   7000 FEET

1   .5   0   1 KILOMETER

GN   MN
0°08'   19°
2 MILS   338 MILS