

## INTRODUCTION TO TOPOGRAPHIC MAPS

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**All of the following questions refer to the Monmouth, OR Quadrangle.**

1) What is the fractional scale, contour interval, and magnetic declination of this map?

a) Scale:                                      b) Contour Interval:                                      c) Declination:

2) What quadrangle maps are located immediately adjacent to the Monmouth Quad.?

a) North:                                      b) South:                                      c) East:                                      d) West:

3) What is the quadrangle size series of this map (in long. and lat.)?

4) What is the date of publication of this map?

5) What does the tick with 4956000m N. mean? (lower right of map)

6) What is the name of the major fluvial system flowing through this area. Of What larger drainage basin(s) does this river form a part of?

7) What is the approximate elevation of the Natural Sciences Building based on the map representation?

8) Given the fractional scale determine the following

5 inches on the map= \_\_\_\_\_ Feet on ground = \_\_\_\_\_ Miles on ground.

10 inches on the map= \_\_\_\_\_ Meters on ground = \_\_\_\_\_ Kilometers on ground.

9) A. What is the road distance in miles along Rt. 99 between Helmick State Park and Monmouth city limits?

B. What is the distance in kilometers?

10) A. Determine the average stream gradients (in Ft/Mi) for the following drainages:

A. Willamette River:                      Gradient:                                      Length:

B. Luckiamute River:                      Gradient:                                      Length:

11) A. What is the highest point of elevation represented on this map?

B. What is the lowest point of elevation represented on this map?

C. What is the maximum relief.

12) A. What is the longitude and latitude location of the road intersection at Buena Vista

B. What is the longitude and latitude location of Davidson Hill?

C. What is the straight line distance in miles between these two points?

- D. What is the azimuth bearing FROM Davidson Hill TOWARDS Buena Vista?
  - E. What is the quadrant bearing FROM Buena Vista TOWARDS Davidson Hill?
- 13) A. What is the nature of the topographic slope in the vicinity of the town of Monmouth?
- C. What is the local relief between WOU and the Willamette adjacent to Independence?
  - D. Is the outline of the topography east of Independence relatively arcuate or irregular in outline?
  - E. What processes might have formed the pattern in D above?

14) Examine the cultural activity immediately north of Monmouth and Independence.

A. Write a brief assessment of the potential for environmental degradation to the surface and groundwater of this area. List three types of water quality degradation (i.e. contamination) problems that may exist in this area.

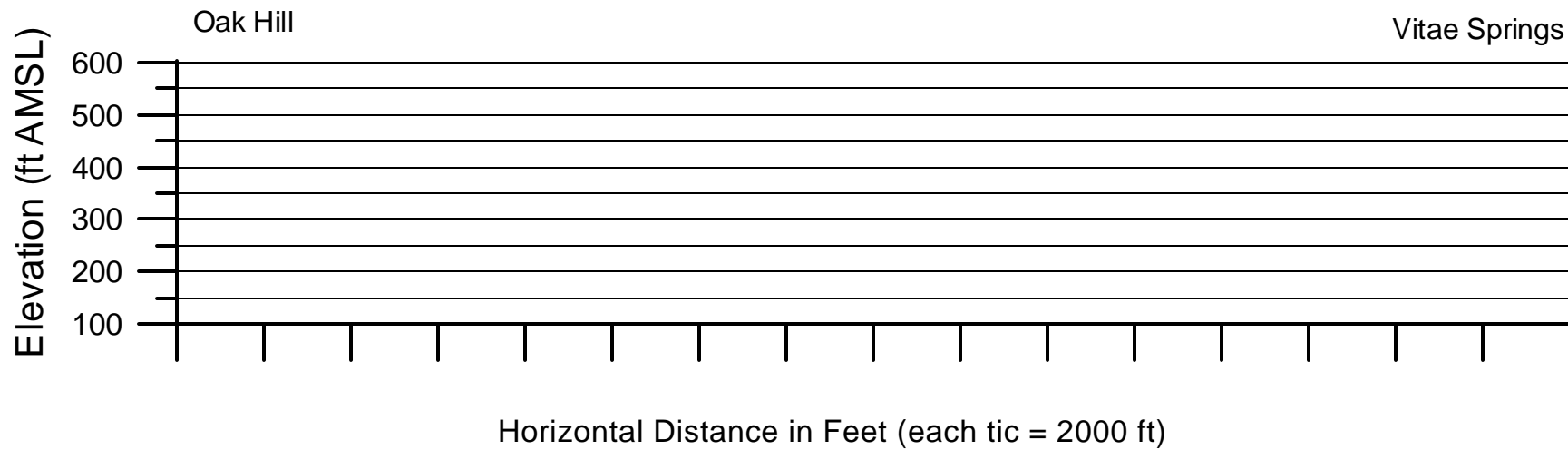
18. Determine the elevations of the following locations:

- A. Wigrich
- B. Oak Hill (SC)
- C. Dicker Reservoir (NE)
- D. Davidson Bridge (SC)

19. Draw a topographic profile along a line connecting Oak Hill (SC) to Vitae Springs. Use a horizontal scale of 1 in = 4000 Ft, and a vertical scale of 1 in = 333.33 ft (see attached profile paper).

- A. Determine the minimum slope grade represented on the profile in percent.
- B. Determine the maximum slope grade represented on the profile in percent.
- C. Where are the areas most likely associated with flooding?
- D. The vertical exaggeration of a profile is calculated by:  $VE = H \text{ scale} / V \text{ scale}$ ;  
Calculate the vertical exaggeration represented on the attached profile.

# Topographic Profile from Oak Hill to Vitae Springs, Monmouth, OR Quad.



Horizontal Scale: 1 in = 4000 ft

Vertical Scale: 1 in = 333.33 ft

V.E. = H/V =