

GLG 103 - Topographic Maps Lab: Union Hills Quad

Name _____

1. The contour interval for this map is _____', the map was first created in the year _____ and **updated** in the year _____ with parts that are colored _____. Contour lines are colored _____; structures are colored _____
2. Look at the hills on the map. What 2 things are done to every 5th contour line? A _____ B _____
3. Magnetic north (MN) is _____ ° (degrees) & _____ ' (minutes) E / W (*Circle one.*) of the North Star or Polar North - the star.
4. The SOUTH edge of our map is _____ ° _____ ' _____. The NORTH edge is _____ ° _____ ' _____" 5. This is a (*Circle one.*) 1° / 30' / 15' / 7.5' / 3.75' map.
6. The miles of longitude (distance E-W) this map covers is _____ & miles of latitude (distance S-N) is _____
7. Think about this. Why is the latitude measurement more than the longitude measurement? (Consider: Where on Earth would the two be the same?)
- * 8. Find Cave Creek Dam. The TOWNSHIP is _____ the RANGE is _____, SECTION NUMBER is _____ and 1/4 SECTION is _____
- * 9. Find PVCC. The TOWNSHIP is _____ the RANGE is _____, SECTION NUMBER is _____ and 1/4 SECTION is _____
10. Why isn't the CVS store on the NE corner of 32nd & Union Hills listed? _____

[Handy USGS Topographic Map Legend. Click me to help with the following questions.](#)

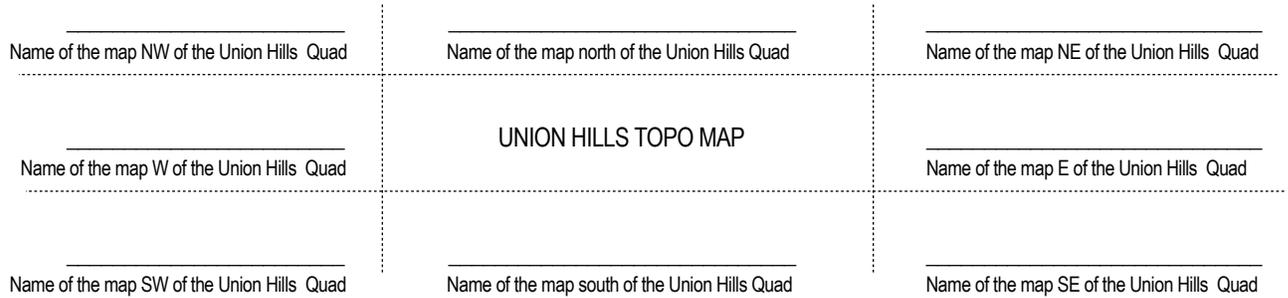
11. What are those crossed shovels ( or ) around Buffalo Ridge & the Union Hills? _____ or _____
12. Find a school. The name of the school is _____ & the symbol for a school is _____ (Draw it.)
13. The elevation of PVCC is approximately _____'. (PVCC is on the SW corner of Union Hills & 32nd Street)
14. Find 'Buffalo Ridge'. Which hill of Buffalo Ridge is higher, NW or SE? _____ at _____' elevation.
Where is the "Valley" or in the "Paradise Valley Community College?"
15. The corner of 7th Street and Union Hills is marked with a spot elevation at _____' .
16. If you walk from the corner of 7th St. & Union Hills to the TOP of Buffalo Ridge, you climb _____ ft in _____ miles for a gradient of _____ ft /mi.
17. Find all the mines / borrow pits around Buffalo Ridge. There are a total of _____ mines/borrow pits near Buffalo Ridge between Beardsley & Union Hills.
18. Which has more mines, Buffalo Ridge or the hill just north of Beardsley on 16th Street? _____
19. The **LONGEST** runway at Phx - Deer Valley Airport is _____ miles & has generally a **E-W** or **N-S** (*Circle one.*) orientation.
20. Look around. Observe. Imagine yourself in the pilot's seat. Why do you think the runway wasn't built to run **directly** NE-SW? _____

- 21 The **highest corner** of the map is NE/SW/NW/SE, elevation _____' Lowest is NE/SW/NW/SE at _____' (*Circle one.*)
22. The highest **contour line** or elevation on the map is _____' at the _____ Hills
23. Find Cave Creek Wash and follow it all across the map. Note the elevations. Which way does Cave Creek generally flow? N, E, S or W (*Circle one.*)
24. Look at [your key](#). What kind of stream is Cave Creek Wash. _____
25. The elevation of Cave Creek Wash at the **north** is _____' & at the **south** is _____' for a drop of _____'.
26. In this distance, Cave Creek Wash runs _____ miles for a gradient of _____ ft/mile. (Look at the label to solve this - divide feet by miles!)
27. Why are there so many gravel pits along Cave Creek Wash? _____
28. Which direction do the contour lines point when they cross the Cave Creek, UPSTREAM or DOWNSTREAM? (*Circle one.*)

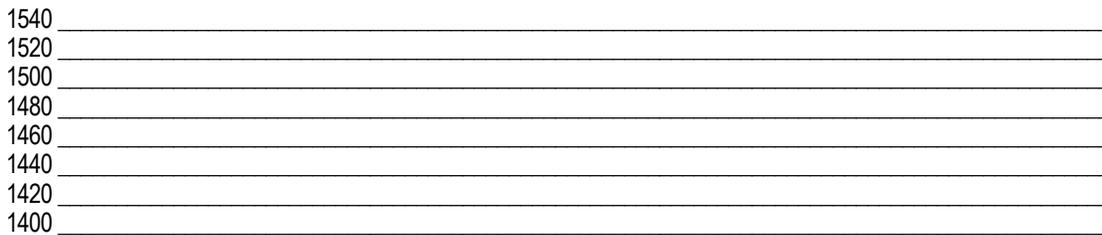
29. You are a lazy skateboarder. You always skateboard DOWNHILL. Which direction would you go on Cave Creek Road, **N** or **S**? (Circle one.)

30. Which way would you *lazily* skateboard on Beardsley Road, **N**, **S**, **E**, or **W**? (Circle one.)

31. List the names of all the maps that surround your Union Hills quad in the middle of the sketch below. North is on the top of the following sketch.



32. Draw the profile (cross sections) from the corner of **7th Street & Union Hills** to **Cave Creek & Union Hills**.



33. Draw the profile from the corner of **7th Street & Union Hills** to the highest point on **top of Buffalo Ridge**.



34. You already know that one horizontal inch on the map = 2,000 feet. Measure the grid above. One VERTICAL inch = _____' on the grid.

35. Calculate the vertical exaggeration of the profile above. horizontal feet per inch / vertical feet per inch vertical = _____

36. Why did we need a vertical exaggeration to make the profile work? Can't we just use one scale?

37. What is the bearing of Cave Creek Road as it heads north out of Phoenix? _____ (In what direction is it heading, Captain?)