Regents Earth Science
Callister Quad Topo Map Exercise

Name _____

Period:_____

Thanks to NY Earth Science Education Legend Jeff Callister

OBJECTIVE: Maps of various kinds—road maps, political maps, land use maps, maps of the world—serve many different purposes. One of the most widely used of all maps is the topographic map. The feature that most distinguishes topographic maps from maps of other types is the use of contour lines to portray the shape and elevation of the land. Topographic maps render the three-dimensional ups and downs of the terrain on a two-dimensional surface. Topographic maps usually portray both natural and manmade features. They show and name works of nature including mountains, valleys, plains, lakes, rivers, and vegetation. They also identify the principal works of man, such as roads, boundaries, transmission lines, and major buildings. The wide range of information provided by topographic maps make them extremely useful to professional and recreational map users alike. Topographic maps are used for engineering, energy exploration, natural resource conservation, environmental management, public works design, commercial and residential planning, and outdoor activities like hiking, camping, and fishing. In this lab activity we will learn how to read a simplified topographic (contour) map. For more information log onto www.usgs.gov. All questions in this lab refer the "Callister Quadrangle" map on the following page.

Warm-up Questions:

What is the contour interval on this map? _____

What is the highest contour line on the map? _____

What is the highest possible elevation on the map?_____

What is the maximum possible depth of the depression on Vails Gate Mountain? _____

Towards what direction does Newburgh River flow? _____

What area is the steepest on the map? _____

What area is most similar to a plain? _____

How far is it from Callister School to the peak of Temple Hill? _____

How long is Newburgh River on this map in miles? _____

What is the gradient along Newburgh River on this map?_____

What are the latitude and longitude coordinates of where the bridge for Route 84 crosses Newburgh River?

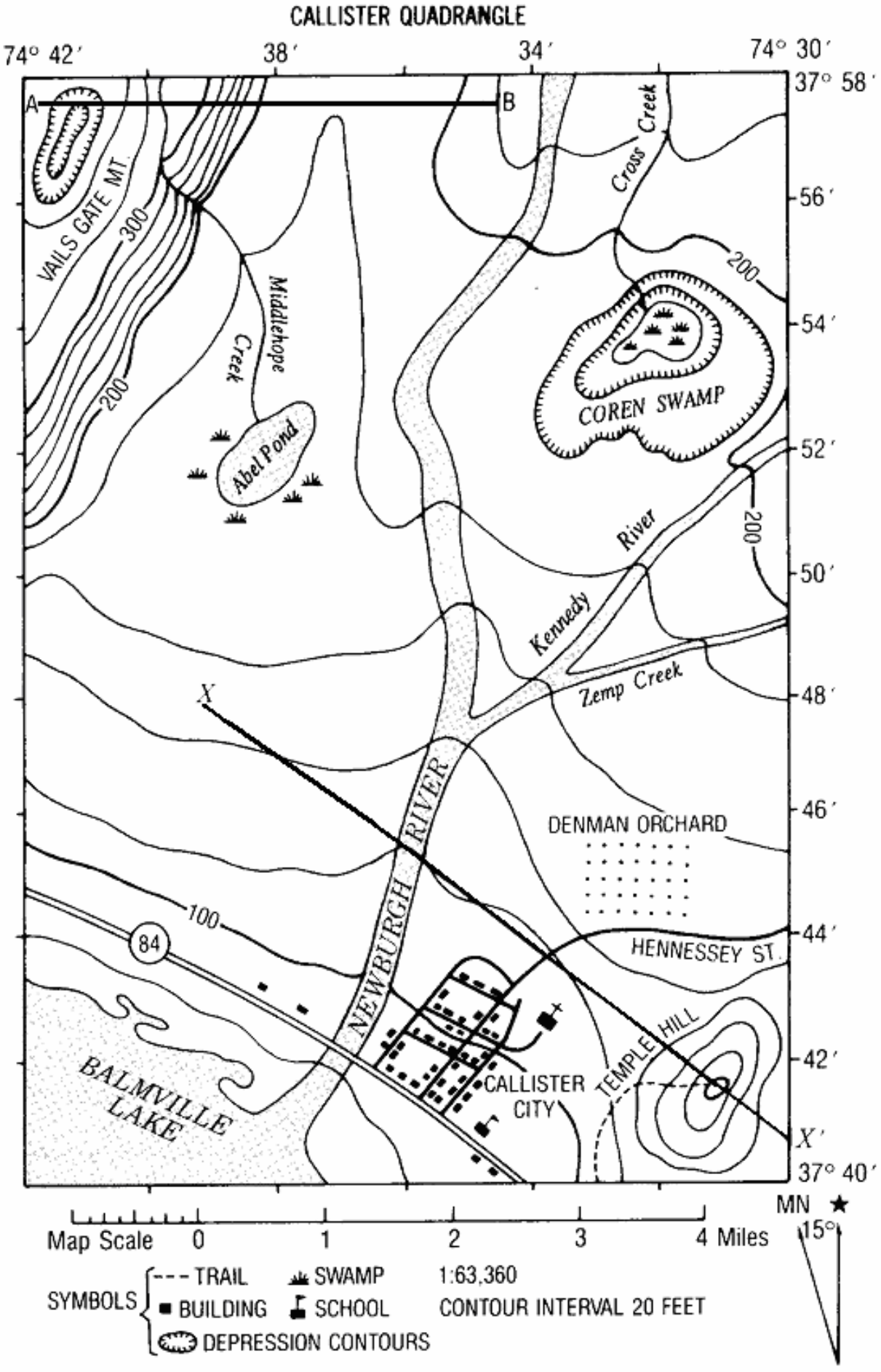
_____

What is the magnetic declination of the map? _____

Now do the following:

1. Neatly label the elevation of all contour lines (notice that some lines are already labeled).
2. LIGHTLY shade in all water areas blue. (Hint: rivers, creek, lake, pond, and stream)
3. LIGHTLY shade in all elevations as follows… less than 100ft = yellow
   100ft – 200ft = orange
   200ft – 300ft = red
   300ft or more = brown
4. On giraffe paper, draw a profile along line A-B.
5. On giraffe paper, draw a profile along line X-X'

Hints: Look up "Magnetic declination" in the index one of the classroom textbooks, and read about what it is.
Search the index of the classroom textbook for "hachures" and read about how they are used on topographic maps.


CALLISTER QUADRANGLE
74° 42′
38′
34′
74° 30′
37° 58′
56′
54′
52′
50′
48′
46′
44′
42′
37° 40′
A
B
X
X′
VAILS GATE MT.
300
200
Middlehope Creek
Abel Pond
Cross Creek
COREN SWAMP
River
Kennedy
Zemp Creek
NEWBURGH
RIVER
DENMAN ORCHARD
100
84
HENNESSEY ST.
TEMPLE HILL
CALLISTER CITY
BALMVILLE LAKE
MN
15°
Map Scale 0 1 2 3 4 Miles
SYMBOLS
TRAIL
SWAMP
BUILDING
SCHOOL
DEPRESSION CONTOURS
1:63,360
CONTOUR INTERVAL 20 FEET