

**2007 North Carolina Regional Science Olympiad
B-Division Road Scholar Event
Nantahala Photo Shoot
Answer Key**

Note: Information in parentheses is for explanation, and is not required to get credit.

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| <p>1. 2007</p> <p>2. 1 inch = 13 miles. They may add “approx.” Also accept 1 inch = 21 kilometers.</p> <p>3. Clay and Macon</p> <p>4. I-40 or Interstate 40. (“I” or “Interstate” required, not just 40.)</p> <p>5. U.S. 23-74. (Both #s required.)</p> <p>6. U.S. 23-441</p> <p>7. U.S. 64</p> <p>8. Hard surface</p> <p>9. One</p> <p>10. A hospital</p> <p>11. Yes. (24 hour facility.)</p> <p>12. 14 (printed on the map along U.S. 64)</p> <p>13. Under 2000.</p> <p>14. 1957</p> <p>15. 1978</p> <p>16. 40 feet</p> <p>17. 1:24,000</p> <p>18. 1"= 2000' or 1"= 0.6 km or 1"= 0.4 mi. (Expressed in any form. They just need to have the right number with the right units.)</p> <p>19. (10 pts) U.S. 64 was not built in 1957 when the contour lines were drawn. The road was added to the map in 1978. (Give 10 pts for any answer that mentions the dates, or that mentions the difference between the contours, and the photorevision. Give 7 points for any answer that has the right</p> | <p>general idea. Give 2 pts for any other good faith attempt.</p> <p>20. The road is purple.</p> <p>21. The elevation on the quad map is shown to the nearest foot, and the elevation on the Transportation Map is rounded to the nearest 5 feet. (Give credit for any answer that mentions rounding on the Transportation Map.)</p> <p>22. (10 pts) Indian Ridge. (No part credit.)</p> <p>23. Tennessee Valley Divide</p> <p>24. (3 pts) South (No partial credit)</p> <p>25. (3 pts) North (No partial credit)</p> <p>26. (20 pts) Grade the lat and long separately, then add the points.
Lat: 35°02'07" N (10 pts)
Long: 83°32'17" W (10 pts)
This can be any style. The N and W are understood and optional when working in North America.
Lat partial credit chart:
35°02'21" to 35°02'30" - 3 pts
35°02'13" to 35°02'20" - 6 pts
35°02'02" to 35°02'12" - 10 pts
35°01'56" to 35°02'01" - 6 pts
35°01'46" to 35°01'55" - 3 pts
Long partial credit chart:
83°32'27" to 83°32'30" - 3 pts
83°32'23" to 83°32'26" - 6 pts
83°32'12" to 83°32'22" - 10 pts
83°32'08" to 83°32'11" - 6 pts
83°32'04" to 83°32'07" - 3 pts</p> |
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27. (10 pts) 4440. (The knoll between the words “Chunky” and “Gal.”) Give 3 pts for 4400.
28. (10 pts) 286°
 Partial credit:
 291° to 293° - 3 pts
 288° to 290° - 6 pts
 285° to 287° - 10 pts
 282° to 284° - 6 pts
 279° to 281° - 3 pts
29. (5 pts) 4700'
 Partial credit:
 4500' to 4599' - 1 pt
 4600' to 4699' - 3 pts
 4700' - 5 pts
 4800' to 4899' - 3 pts
 4900' to 4999' - 1 pt
30. (3 pts) Yellow Mountain (No partial credit.)
31. (10 pts) The elevation of the ridge of Yellow Mountain, at the point where Katy would be looking over it, is something in between 4880' and 4920'. If the trees are no more than 150' tall, the top of the trees between the 2 groups is no more than 5070'. The elevation at Grassy Gap is 4080'. If the hawk is 1000' above that, the hawk would be flying at 5080'. This is higher than the tops of the trees at the relevant part of Yellow Mountain, or any other place on the line of sight between the 2 groups. Standing Indian Mountain is even higher, so nothing will block the view. The question says that the binoculars are powerful enough, and that the trees immediately around Katy do not block her view.

- Give no points for a “No” answer.
 Give 1 point for a simple “Yes.”
 Give 3 pts for “Yes, nothing is in the way,” or similar.
 Give 10 pts for a very complete demonstration of the reasoning.
 Give whatever points you think appropriate in between 3 and 10 for lesser explanations, citing some relevant factors, depending on how much understanding they demonstrate.
32. (15 pts) Give points for each feature shown reasonably in the square. The square is supposed to be 10 cm, and labeled “Kitchens Knob.” This area is about 8 inches from the left edge of the map, and about 2 1/2 inches from the bottom. Give points for the Tennessee Valley Divide, the Appalachian Trail, Big Kitchens Ridge, Brusby Mtn, and anything else reasonable that the map shows. Give points for the quality of the sketch, labeling, contours, key/legend, and scale. Basically, just figure out something consistent that makes sense to you.

Total Possible Points: 120

The 1st tiebreaker is the number of questions attempted. (Those that leave lots of blanks don't win.) If that doesn't work, then use questions 29, then 28, then 27, and then the other questions in reverse order.