FOR TEACHERS ONLY

The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

PS–ES PHYSICAL SETTING/EARTH SCIENCE

Wednesday, January 28, 2009 — 9:15 a.m. to 12:15 p.m., only

SCORING KEY AND RATING GUIDE

Directions to the Teacher:

Refer to the directions on page 3 before rating student papers.

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Check this web site http://www.emsc.nysed.gov/osa/ and select the link "Examination Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents examination period.

Part A and Part B–1
Allow 1 credit for each correct response.

Part A

1	3	13	4	25	4
2	1	14	4	26	3
3	4	15	3	27	3
4	1	16	2	28	1
5	1	17	4	29	3
6	3	18	1	30	2
7	4	19	4	31	3
8	2	20	3	32	1
9	4	21	1	33	4
10	2	22	4	34	1
11	1	23	2	35	4
12	3	24	2		

Part B–1

36	3	44	2
37	2	45	2
38	2	46	3
39	3	47	2
40	1	48	1
41	2	49	4
42	1	50	3
43	1		

Directions to the Teacher

Follow the procedures below for scoring student answer papers for the Physical Setting/Earth Science examination. Additional information about scoring is provided in the publication *Information Booklet for Scoring Regents Examinations in the Sciences*.

Use only *red* ink or *red* pencil in rating Regents papers. Do *not* correct the student's work by making insertions or changes of any kind.

On the detachable answer sheet for Part A and Part B–1, indicate by means of a check mark each incorrect or omitted answer. In the box provided at the end of each part, record the number of questions the student answered correctly for that part.

At least two science teachers must participate in the scoring of each student's responses to the Part B–2 and Part C open-ended questions. Each of these teachers should be responsible for scoring a selected number of the open-ended questions on each answer paper. No one teacher is to score all the open-ended questions on a student's answer paper.

Students' responses must be scored strictly according to the Scoring Key and Rating Guide. For open-ended questions, credit may be allowed for responses other than those given in the rating guide if the response is a scientifically accurate answer to the question and demonstrates adequate knowledge as indicated by the examples in the rating guide. In the student's answer booklet, record the number of credits earned for each answer in the box printed to the right of the answer lines or spaces for that question.

Fractional credit is *not* allowed. Only whole-number credit may be given to a response. Units need not be given when the wording of the questions allows such omissions.

Raters should enter the scores earned for Part A, Part B–1, Part B–2, and Part C on the appropriate lines in the box printed on the answer booklet and then should add these four scores and enter the total in the box labeled "Total Written Test Score." The student's score for the Earth Science Performance Test should be entered in the space provided. Then, the student's raw scores on the performance test and written test should be converted to a scaled score by using the conversion chart that will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, January 28, 2009. The student's scaled score should be entered in the labeled box on the student's answer booklet. The scaled score is the student's final examination score.

All student answer papers that receive a scaled score of 60 through 64 **must** be scored a second time. For the second scoring, a different committee of teachers may score the student's paper or the original committee may score the paper, except that no teacher may score the same open-ended questions that he/she scored in the first rating of the paper. The school principal is responsible for assuring that the student's final examination score is based on a fair, accurate, and reliable scoring of the student's answer paper.

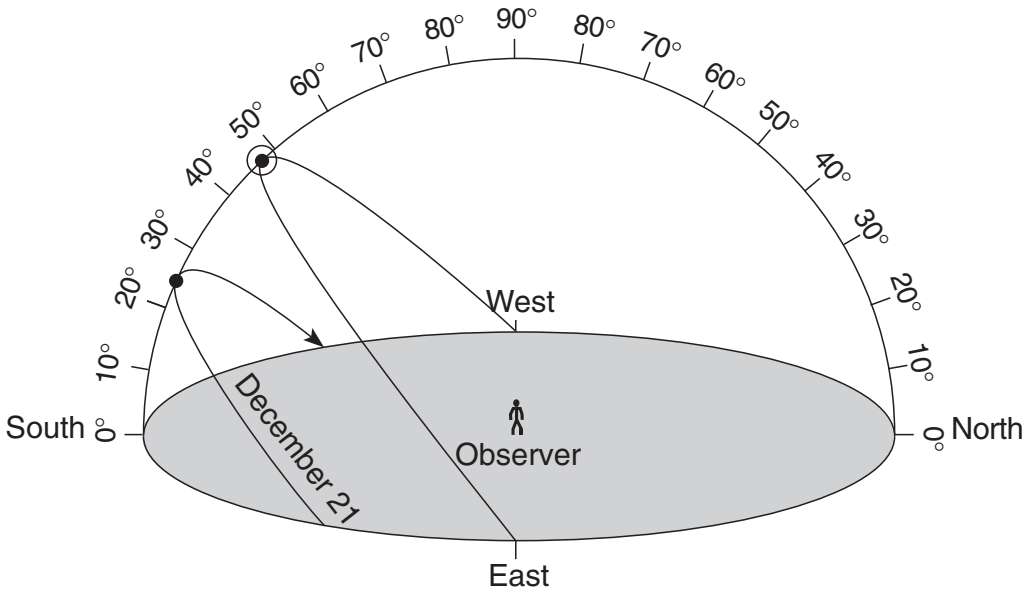
Because scaled scores corresponding to raw scores in the conversion chart may change from one examination to another, it is crucial that for each administration, the conversion chart provided for that administration be used to determine the student's final score.

Part B–2

Allow a total of 15 credits for this part. The student must answer all questions in this part.

51 [1] Allow 1 credit if the Sun's apparent path begins at due east and ends at due west and is drawn so the altitude of the noon Sun is within the circle shown below.

Example of a 1-credit response:



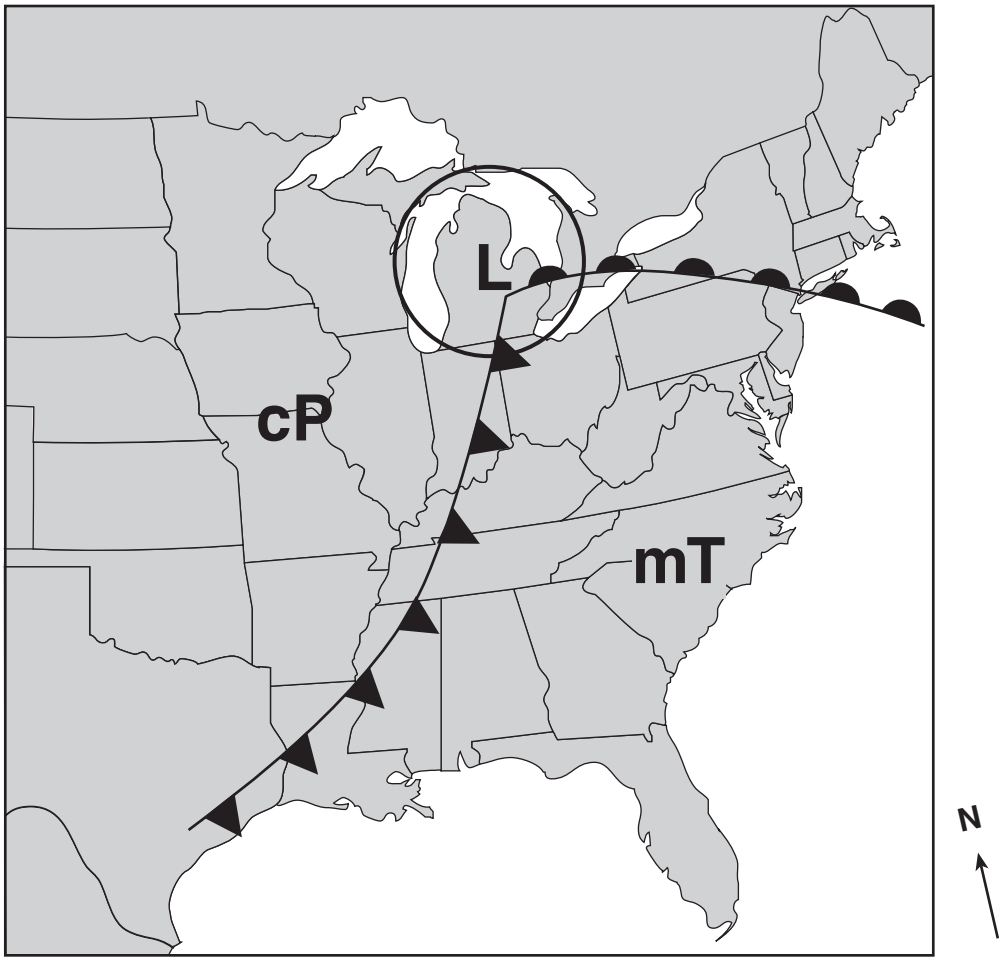
52 [1] Allow 1 credit for any date from June 19 to June 23.

53 [1] Allow 1 credit if the center of the **L** is located within the circle shown below.

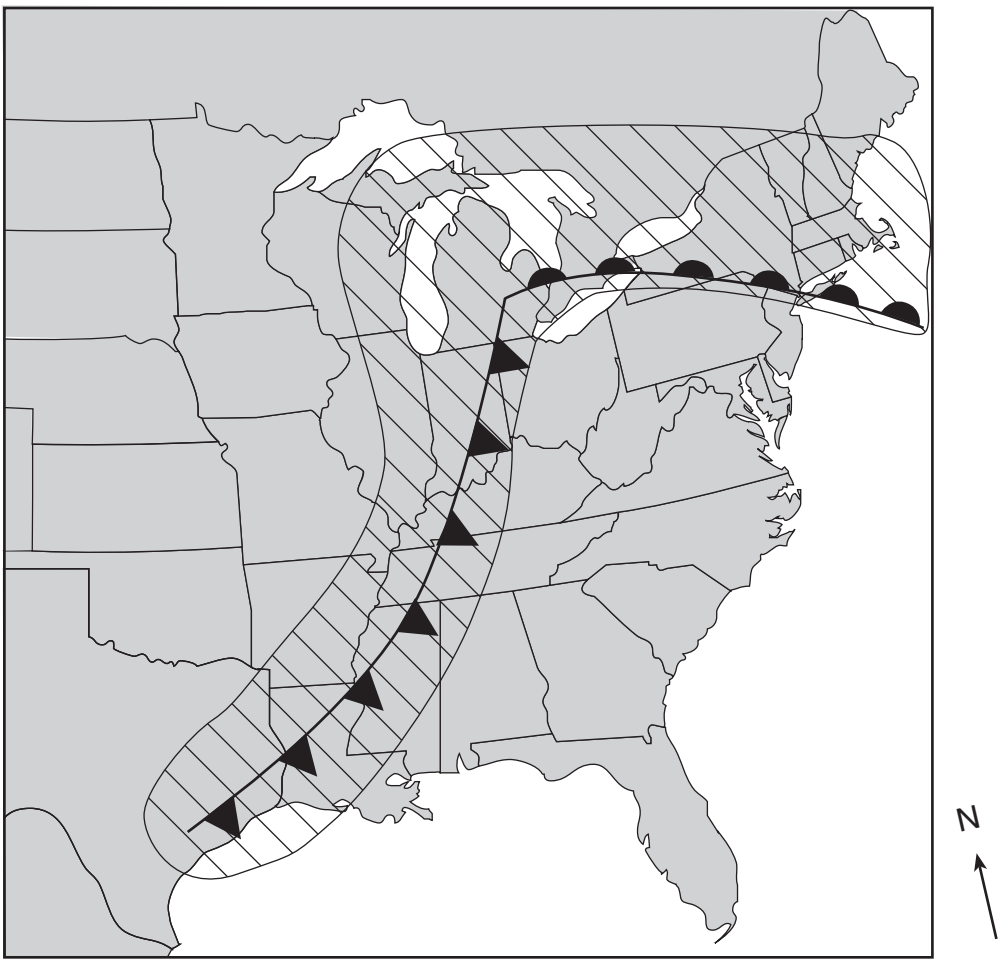
54 [1] Allow 1 credit. The cP air mass could be located anywhere behind the cold front or ahead of the warm front. The mT air mass should be located in front of the cold front and behind the warm front.

Note: Do *not* allow credit if air-mass letters are reversed, i.e., Pc and Tm.

Example of a 2-credit response for questions 53 and 54:



55 [1] Allow 1 credit if the center of the **X** is placed anywhere within the crosshatched area shown below.



56 [1] Allow 1 credit for a warm front.

57 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Rising air expands, cools to the dewpoint, and condensation of water vapor occurs.

— Condensation occurs when the dewpoint is reached.

— Water vapor condenses when dewpoint is reached.

58 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Allegheny Plateau

— Erie-Ontario Lowlands

— Appalachian Plateau

59 [1] Allow 1 credit for rock salt and a correct explanation. Acceptable explanations include, but are not limited to:

— crystals of halite settling in an evaporating sea

— precipitation from seawater

— chemical deposition

60 [1] Allow 1 credit for any value from 0.035 to 0.045 mi/yr.

61 [1] Allow 1 credit for 1000 ft.

62 [1] Allow 1 credit for *two* correct responses. Acceptable responses include, but are not limited to:

— U-shaped valleys in the area

— parallel scratches in the bedrock

— unsorted sediment deposits

— moraines

— drumlins

63 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The greater the average distance a Jovian planet is from the Sun, the colder the temperature.

— An inverse relationship exists between distance and temperature for the Jovian planets.

— The closer the Jovian planet is to the Sun, the warmer the average surface temperature.

64 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Carbon dioxide causes a greenhouse effect on Venus.

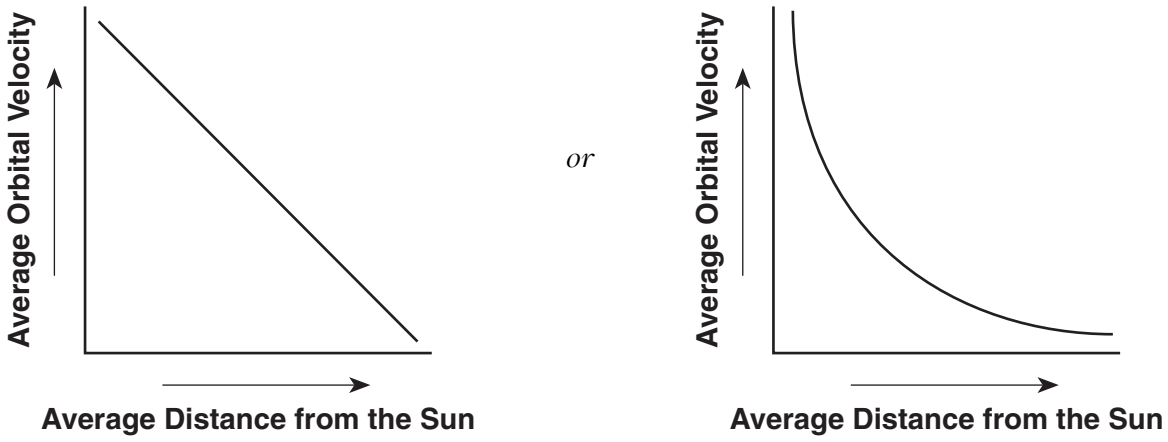
— Carbon dioxide is an excellent absorber of infrared radiation.

— Carbon dioxide traps heat and keeps it from escaping.

— The carbon dioxide-rich atmosphere absorbs energy in Venus' atmosphere and reradiates it.

65 [1] Allow 1 credit for a graph that shows an inverse relationship.

Examples of 1-credit responses:



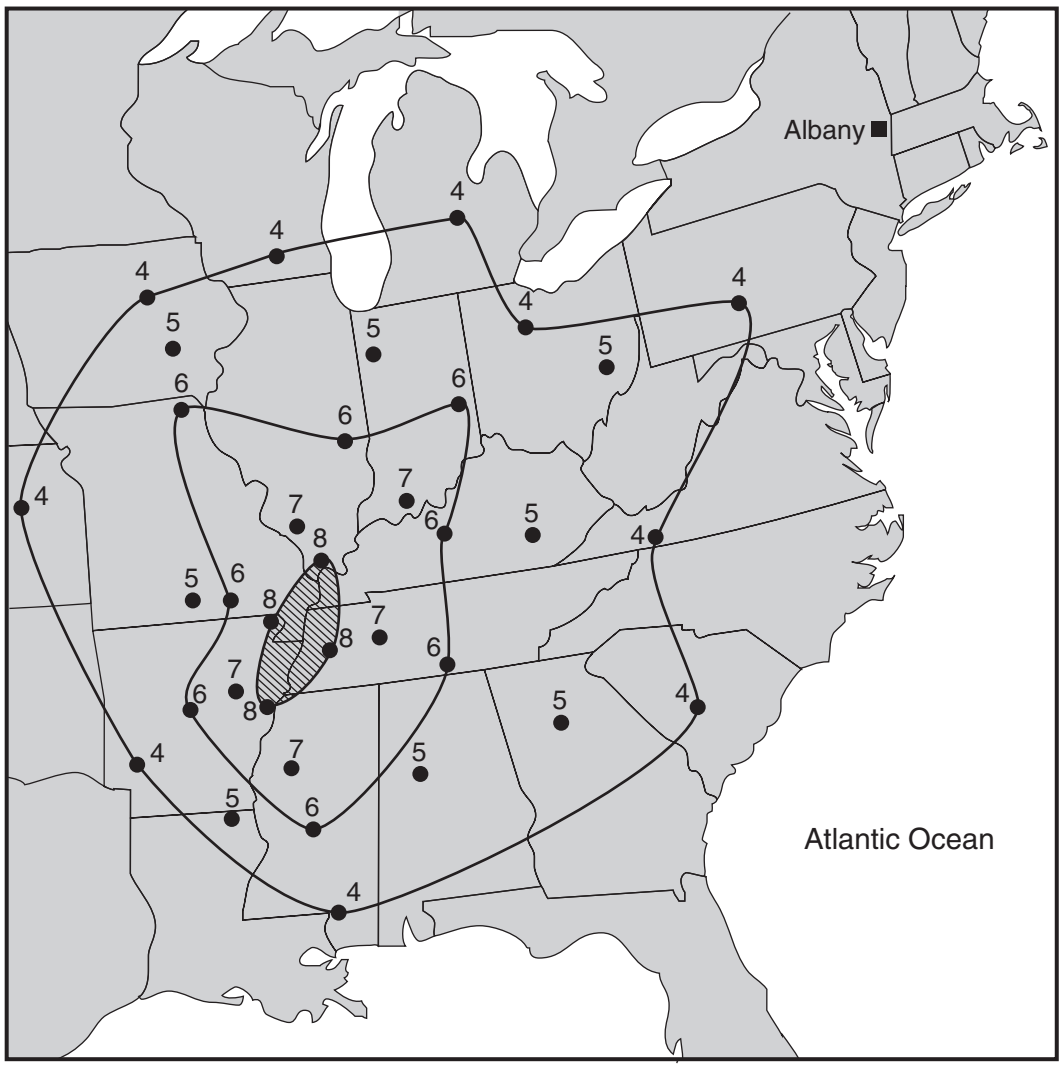
Part C

Allow a total of 20 credits for this part. The student must answer all questions in this part.

66 [1] Allow 1 credit if all *three* isolines are drawn correctly. If more than the three required isolines are drawn, all isolines must be correct to receive credit. Isolines do *not* have to be labeled but must touch all equal value points to receive credit.

67 [1] Allow 1 credit if the center of the **X** is located within the crosshatched area below.

Example of a 2-credit response for questions 66 and 67:



68 [1] Allow 1 credit for 3 min 0 sec ± 10 seconds.

69 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The western coast of the United States is near plate boundaries.

— More major faults are located on the western coast of the United States.

— Fewer active faults are located in the central portion of the United States compared to the western coast of the United States.

— The central portion of the United States is in the middle of a tectonic plate.

70 [1] Allow 1 credit for *two* correct responses. Acceptable responses include, but are not limited to:

— plan evacuation routes

— identify earthquake hazard zones or areas that are subject to damage during an earthquake

— plan emergency communication procedures

— develop emergency information brochures

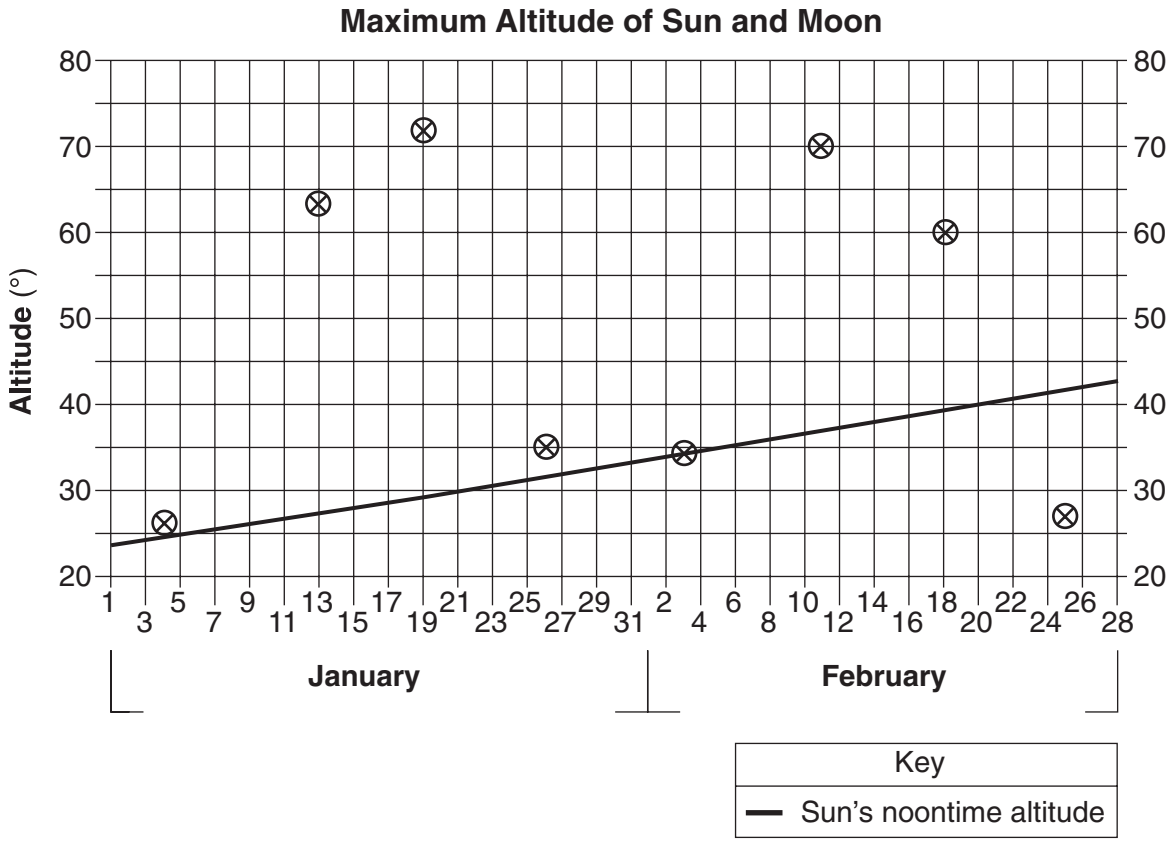
— store food, supplies, and fresh water

— build earthquake-resistant structures

— identify shelter locations

71 [1] Allow 1 credit if the center of seven or eight **X**s are correctly plotted within the circles shown below.

Example of a 1-credit graph:



72 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

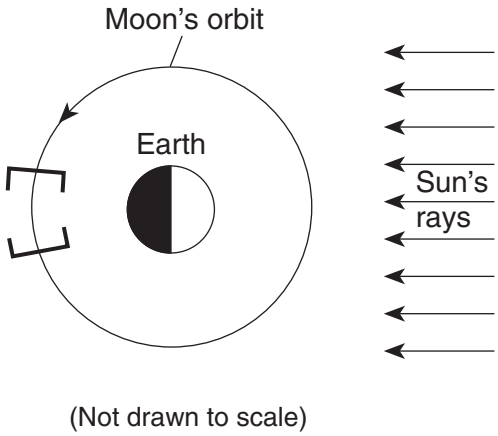
— The Sun and the Moon were at the same altitude on February 3.

— The Sun and the Moon were aligned with Earth.

— This solar eclipse occurred at the new Moon phase.

— The apparent paths of the Sun and the Moon crossed.

73 [1] Allow 1 credit for correctly placing the center of the **X** between the brackets shown below.



(Not drawn to scale)

74 [1] Allow 1 credit for March 18 *or* March 19 *or* March 20.

75 [1] Allow 1 credit for zone *D*.

76 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— sulfur

— hematite

77 [1] Allow 1 credit for any latitude from 40° S to 44° S and any longitude from 65° W to 69° W. The correct units and compass directions must be included.

78 [1] Allow 1 credit for clay.

79 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— earliest birds

— birds

80 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— radioactive dating

— identifying an index fossil in the layer containing this fossil

— correlating rock layers or fossils

81 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Mountain barriers changed the flow of winds.

— The air sinks on the Patagonia side of the Andes.

— Patagonia is located on the leeward side of the mountains.

— Patagonia is located in the rain shadow.

82 [1] Allow 1 credit for southeast *or* SE.

83 [1] Allow 1 credit for any elevation between 680 feet and 700 feet.

84 [2] Allow a maximum of 2 credits, allocated as follows:

Allow 2 credits if the centers of ten or eleven student-plotted **X**s are within the circles shown below and the **X**s are correctly connected with a line that falls within the circles.

Allow 1 credit if the centers of only eight or nine student-plotted **X**s are within the circles shown below and the **X**s are correctly connected with a line that falls within the circles.

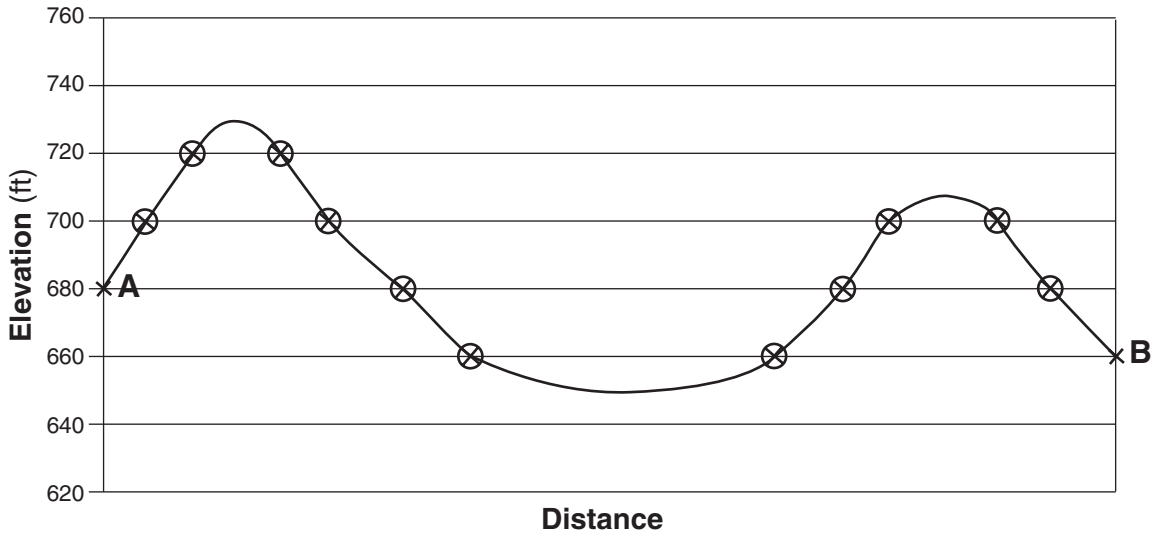
or

Allow 1 credit if the centers of ten or eleven student-plotted **X**s are within the circles shown below but are *not* correctly connected with a line that falls within the circles.

Note: Eagle Hill must be greater than 720 feet but less than 740 feet, and Timony Hill must be greater than 700 feet but less than 720 feet. The low point of the profile must be less than 660 feet, but greater than 640 feet.

It is recommended that an overlay be used to ensure uniformity in scoring.

Example of a 2-credit response:



Regents Examination in Physical Setting/Earth Science

January 2009

Chart for Converting Total Test Raw Scores to Final Examination Scores (Scaled Scores)

The *Chart for Determining the Final Examination Score for the January 2009 Regents Examination in Physical Setting/Earth Science* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, January 28, 2009. Conversion charts provided for previous administrations of the Regents Examination in Physical Setting/Earth Science must NOT be used to determine students' final scores for this administration.

Submitting Online Teacher Evaluations of the Test to the Department

Suggestions and feedback from teachers provide an important contribution to the test development process. The Department provides an online evaluation form for State assessments. It contains spaces for teachers to respond to several specific questions and to make suggestions. Instructions for completing the evaluation form are as follows:

1. Go to www.emsc.nysed.gov/osa/exameval.
2. Select the test title.
3. Complete the required demographic fields.
4. Complete each evaluation question and provide comments in the space provided.
5. Click the SUBMIT button at the bottom of the page to submit the completed form.

Map to Core Curriculum

January 2009 Physical Setting/Earth Science			
Question Numbers			
Key Ideas/Performance Indicators	Part A	Part B	Part C
Standard 1			
Math Key Idea 1	2, 3	60, 65	66, 71
Math Key Idea 2	1, 18	43, 63	68
Math Key Idea 3	6	36, 50, 61	67
Science Inquiry Key Idea 1	5, 28	59	69, 81
Science Inquiry Key Idea 2			
Science Inquiry Key Idea 3		37	79
Engineering Design Key Idea 1			
Standard 2			
Key Idea 1		55	
Key Idea 2			
Key Idea 3			
Standard 6			
Key Idea 1	17	38, 47, 54, 57	78, 80
Key Idea 2	7, 10, 11, 12, 13, 14, 16,19, 20, 32, 33, 34, 35	39, 40, 41, 42, 44, 45, 48, 49, 50, 51, 53, 54, 55, 56, 58, 59, 60, 61	72, 73, 75, 76, 77, 82, 83, 84
Key Idea 3			83, 84
Key Idea 4			
Key Idea 5	10, 24	42, 43, 44, 45, 51, 52, 55, 62	72, 73, 74, 81
Key Idea 6		64	
Standard 7			
Key Idea 1			70
Key Idea 2			
Standard 4			
Key Idea 1	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 20, 21, 26, 28, 29, 31, 32	36, 37, 38, 39, 40, 41, 42, 43, 48, 50, 51, 63, 66	71, 72, 73, 74, 77, 79, 80
Key Idea 2	9, 11, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 30, 33, 34, 35	44, 45, 46, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 64	66, 67, 68, 69, 70, 81, 82, 83, 84
Key Idea 3	27	47, 49, 59	75, 76, 78
Reference Tables			
ESRT 2001 Edition (Revised)	1, 2, 3, 6, 11, 15, 18, 21, 26, 27, 30, 31, 33, 35	37, 46, 47, 49, 50, 54, 55, 56, 58, 59, 60	68, 69, 75, 76, 78, 79