

FOR TEACHERS ONLY

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

PS-ES PHYSICAL SETTING/EARTH SCIENCE

Tuesday, June 20, 2006 — 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			Part B-1	
1 3	13 1	25 1	36 2	44 1
2 2	14 4	26 4	37 4	45 2
3 3	15 2	27 4	38 3	46 4
4 4	16 3	28 3	39 4	47 2
5 1	17 1	29 1	40 3	48 3
6 1	18 3	30 1	41 4	49 3
7 2	19 4	31 2	42 2	50 1
8 3	20 2	32 4	43 1	
9 2	21 3	33 2		
10 2	22 4	34 4		
11 4	23 2	35 1		
12 3	24 2			

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 checkmark 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 Tuesday, June 20, 2006. 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 for any value above 20 ft but below 30 ft.

52 [2] Allow a maximum of 2 credits, allocated as follows:

- Allow 2 credits if eight or nine points are correctly plotted within the circles shown below and are correctly connected with a smooth, curved line.
- Allow 1 credit if only six or seven points are correctly plotted within the circles shown below and are correctly connected with a smooth, curved line.

or

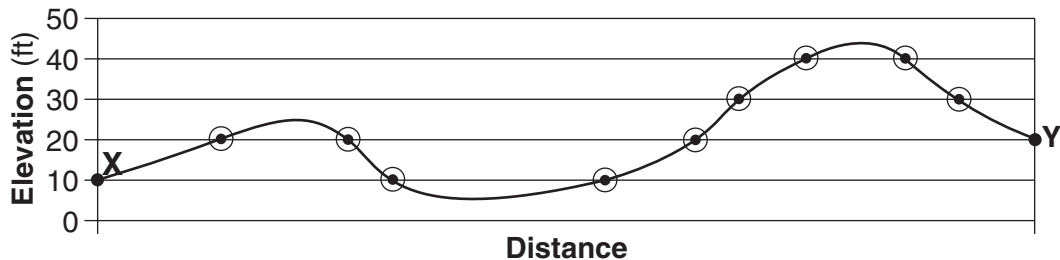
- Allow 1 credit if eight or nine points are correctly plotted within the circles shown below but are not correctly connected with a smooth, curved line.

Note: The center of each point must fall on the horizontal line within the circles shown below. The line must extend below the lowest points to show the depression and above the highest points to show the hills.

Also allow credit if a symbol other than a dot is used.

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

Example of a 2-credit response:



53 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- (A) is slower cooling than (B).
- (B) is faster cooling than (A).
- Intrusive rock forms from molten rock that cools slowly.
- Extrusive rock forms from molten rock that cools rapidly.

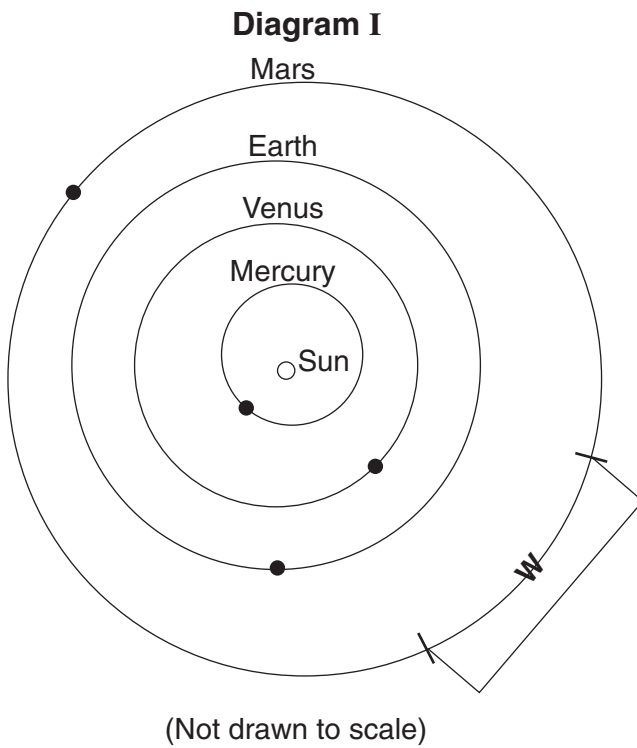
54 [1] Allow 1 credit. Correct units must be included in the answer.

- 1 mm to 10 mm
- 1 to 10 mm

- 55 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- obsidian
 - basaltic glass
 - pumice
 - vesicular basalt glass

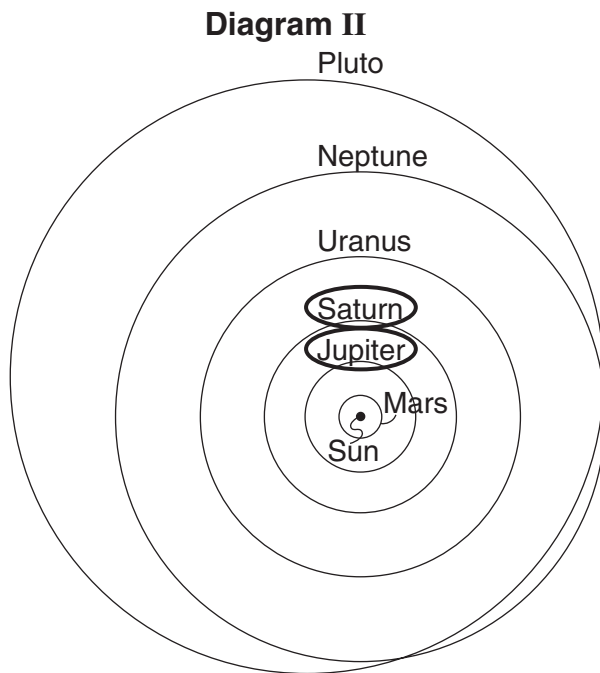
- 56 [1] Allow 1 credit for placing the letter **W** within the area shown below indicated by the bracket. Also allow credit if a symbol other than **W** is used.

Example of a 1-credit response:



- 57 [1] Allow 1 credit for circling only Saturn and Jupiter. Both planets must be circled to receive credit.

Example of a 1-credit response:



(Not drawn to scale)

- 58 [1] Allow 1 credit for 84 years or 84.0 years. Correct units must be included in the answer.
- 59 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The orbits are elliptical or oval shaped.
 - The orbits are nearly circular.
- 60 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Sometimes Pluto is closer to the Sun than Neptune is.
 - Part of Pluto's orbit is sometimes located within Neptune's orbit.
- 61 [1] Allow 1 credit for Pleistocene Epoch.
- 62 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Glacial sediment is unsorted.
 - piles of mixed sediment sizes

- 63** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- southwest (SW)
 - south southwest (SSW)
- 64** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- parallel scratches, grooves, or striations
 - orientation of glacial features, such as drumlins and lateral moraines

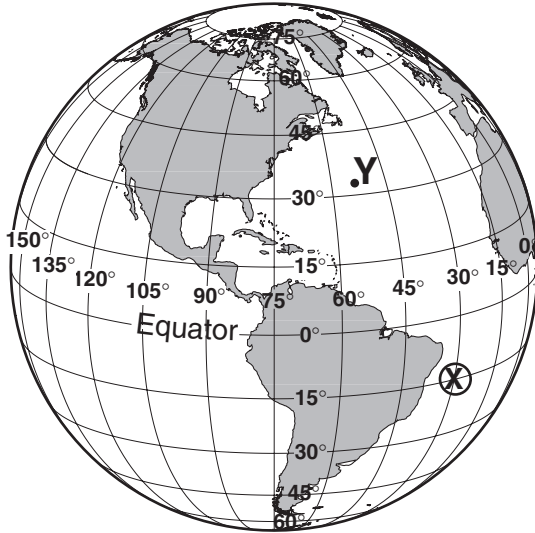
Part C

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

- 65** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Water droplets form on the surfaces provided by the salt and dust particles.
 - Salt and dust particles are condensation nuclei, allowing the water vapor to change into liquid drops, forming clouds.
- 66** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Dust particles can be blown into the atmosphere by winds.
 - a volcanic eruption
 - a forest fire
- 67** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The air on the western slopes of the mountains is rising.
 - The valleys are located on the eastern side of mountain ranges where air is sinking.
 - Air is warmed by compression as it descends the mountain slopes, so relative humidity decreases.
- 68** [1] Allow 1 credit for a precipitation total of 134 in \pm 4 in.
- 69** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The Sierra Nevada Mountain Range is higher in elevation.
 - Higher elevations have lower temperatures.
 - Expansional cooling increases with higher mountains.

- 70 [1] Allow 1 credit for a correctly placed **X**. The center of the **X** must fall within the circle shown below. Also allow credit if a symbol other than **X** is used.

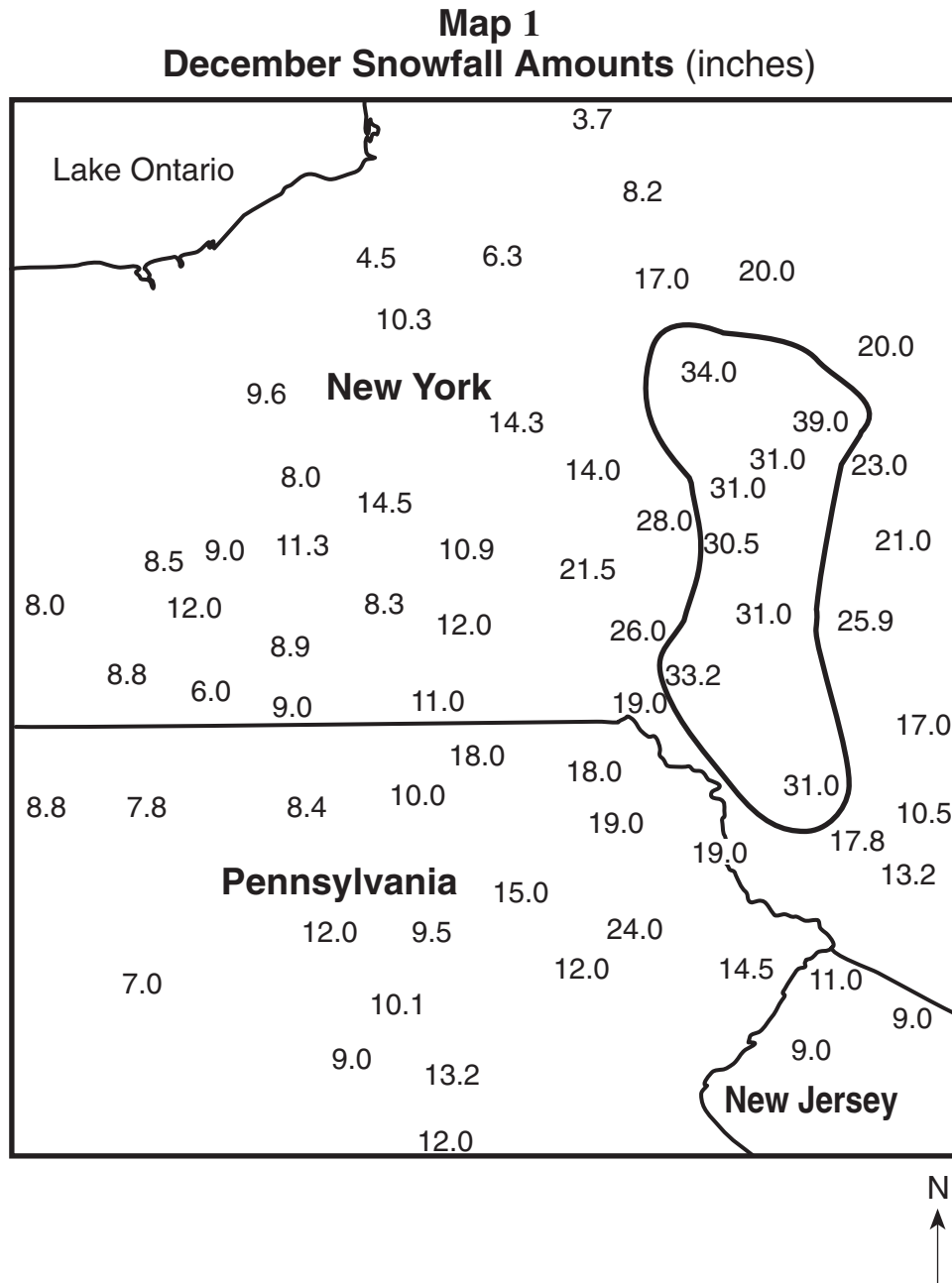
Example of a 1-credit response:



- 71 [1] Allow 1 credit for 15°/hr.

72 [1] Allow 1 credit for correctly drawing the 30.0-inch snowfall isoline.

Example of a 1-credit response:



- 73 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Residents should have bought extra supplies such as food, milk, and water.
 - Residents should have gotten their battery-powered radio, flashlights, and candles ready.
 - should have made sure emergency generators work
 - Residents should have checked that they had enough fuel, oil, or wood for heat to last several days.

- 74 [2] Allow a maximum of 2 credits, allocated as follows:
- Allow 2 credits if all four descriptions are correct.
 - Allow 1 credit if only two or three descriptions are correct.

Example of a 2-credit response:

Weather Conditions	Description
present weather	snow
wind direction from	northeast
wind speed (knots)	10 ± 2
relative humidity (%)	100

- 75 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Winds are counterclockwise and inward toward the low-pressure center.
 - Winds are counterclockwise.
 - Winds are blowing toward the center of the low.

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

- 77 [1] Allow 1 credit for quartzite or hornfels.

- 78 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The fault displaced the intrusion.
 - The fault has cut across the preexisting basalt intrusion.

- 79 [1] Allow 1 credit if all *three* rock names are correctly listed as shown below.
- Formed first: limestone
- Formed second: breccia
- Formed last: basalt

80 [1] Allow 1 credit for 0.006 or .006 cm.

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

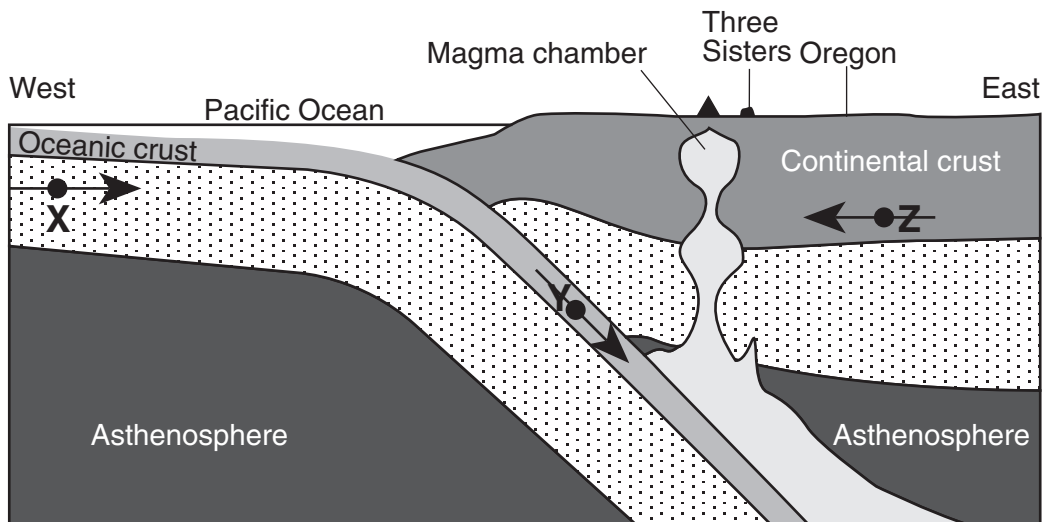
- quartz
- plagioclase feldspar
- biotite
- amphibole (hornblende)
- pyroxene

Note: Do *not* accept feldspar only.

82 [1] Allow 1 credit for placing the ▲ on Earth’s surface above the magma chamber. Also allow credit if a symbol other than a ▲ is used.

83 [1] Allow 1 credit if all *three* arrows show the correct directions, even if the arrows do *not* pass through the dots.

Example of a correct response for questions 82 and 83:



(Not drawn to scale)

The *Chart for Determining the Final Examination Score for the June 2006 Regents Examination in Physical Setting/Earth Science* will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> on Tuesday, June 20, 2006. 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.

The *Teacher Evaluation of State Examinations* forms will also be posted on the same web site. Please select the link "Teacher Evaluation Forms" and then the examination title to complete the evaluation form for the *June 2006 Regents Examination in Physical Setting/Earth Science*.

Map to Core Curriculum

June 2006 Physical Setting/Earth Science			
Question Numbers			
Key Ideas/Performance Indicators	Part A	Part B	Part C
Standard 1			
Math Key Idea 1	30	59	
Math Key Idea 2	3, 6, 13, 17, 24, 31	45, 47, 56, 60	68, 69
Math Key Idea 3	9, 18, 20	36, 50	71
Sci. Inq. Key Idea 1	10	48, 49	66, 67
Sci. Inq. Key Idea 2			
Sci. Inq. Key Idea 3	4, 15, 22, 25, 26, 27, 32, 33	37, 38, 43, 54, 55, 58, 61	77, 80, 81
Eng. Des. Key Idea 1			
Standard 2			
Key Idea 1			76
Key Idea 2			
Key Idea 3			73
Standard 6			
Key Idea 1	12	44, 50, 62, 64	75, 76, 83
Key Idea 2	2, 5, 8, 9, 10, 14, 18, 20, 28, 29, 30, 31, 32, 33, 34, 35	39, 40, 41, 42, 45, 50, 51, 52, 53, 54, 55, 56, 57, 59, 60, 61, 63	65, 67, 68, 69, 70, 71, 72, 74, 75, 77, 78, 79, 82, 83
Key Idea 3	7, 25, 30	51	71, 79
Key Idea 4		56, 60	
Key Idea 5		42, 46, 49, 63	76, 82, 83
Key Idea 6			
Standard 7			
Key Idea 1			
Key Idea 2			73
Standard 4			
Performance Indicator 1	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 18, 23, 27	39, 40, 41, 42, 43, 50, 56, 57, 58, 59, 60, 61	70, 71, 78, 79
Performance Indicator 2	3, 12, 13, 14, 15, 16, 17, 19, 20, 22, 24, 25, 26, 29, 30, 31, 32, 33, 35	44, 45, 46, 47, 48, 49, 51, 52, 62, 63, 64	65, 66, 67, 68, 69, 72, 73, 74, 75, 76, 82, 83
Performance Indicator 3	21, 28, 34	36, 37, 38, 53, 54, 55	77, 80, 81
Reference Tables			
ESRT 2001 Edition	1, 3, 4, 6, 13, 15, 19, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34	37, 38, 40, 43, 54, 55, 57, 58, 59, 61, 63	74, 77, 80, 81

