

FOR TEACHERS ONLY

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

PS-ES PHYSICAL SETTING/EARTH SCIENCE

Tuesday, June 19, 2007 — 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 4	13 3	25 1	36 2	44 1
2 3	14 4	26 1	37 3	45 1
3 2	15 2	27 3	38 2	46 2
4 1	16 2	28 4	39 3	47 3
5 3	17 4	29 2	40 1	48 1
6 2	18 2	30 4	41 1	49 3
7 2	19 1	31 4	42 4	50 4
8 4	20 3	32 3	43 2	
9 3	21 3	33 2		
10 3	22 1	34 1		
11 2	23 4	35 3		
12 1	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 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 Tuesday, June 19, 2007. 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 14 credits for this part. The student must answer all questions in this part.

51 [1] Allow 1 credit if *both* air masses are correct as shown below. Allow credit for either upper- or lowercase letters.

(1) cP

(2) mT

Note: Do *not* allow credit if the letters are reversed, such as, Tm.

52 [1] Allow 1 credit for Binghamton.

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

- Move indoors.
- Do not use electrical equipment or telephones.
- Do not stand under tall objects.

54 [1] Allow 1 credit for Cambrian Period.

55 [1] Allow 1 credit if *both* processes are correct. Acceptable responses include, but are not limited to:

- uplift
- erosion
- weathering
- subsidence
- deposition
- burial

56 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- widespread geographic distribution
- short existence in geologic time

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

- Carbon-14's half-life is too short.
- Not enough carbon-14 is left to measure.
- The fossils are too old.

58 [1] Allow 1 credit for pebble.

59 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- abrasion
- weathering
- erosion
- Particles were worn down as they were scraped along the bedrock.

60 [1] Allow 1 credit for shale.

61 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- A glacier forms a U-shaped valley.
- Glaciers form U-shaped valleys and streams form V-shaped valleys.

62 [1] Allow 1 credit. Acceptable responses include, but are limited to:

- It shows banding.
- The rock is foliated.
- The minerals are segregated into layers.
- distortion

63 [1] Allow 1 credit for any *two* of the three responses below.

- pyroxene (augite)
- mica (biotite)
- amphibole (hornblende)

Note: Do *not* allow credit for muscovite mica.

64 [1] Allow 1 credit for garnet and *one* acceptable use. Acceptable responses include, but are not limited to:

- jewelry
- abrasives

Part C

Allow a total of 21 credits for this part. The student must answer all questions in this part.

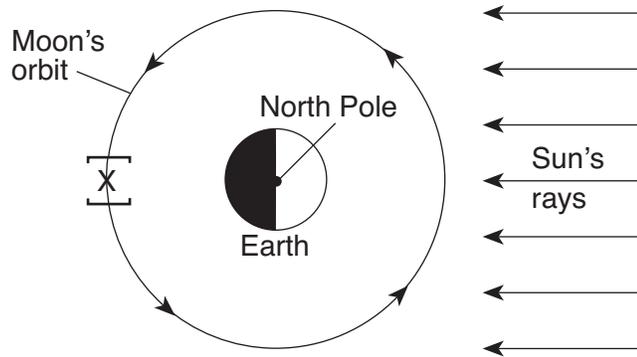
65 [1] Allow 1 credit for July 7 *or* July 8.

66 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- the Moon’s revolution
- The Moon orbits Earth.

67 [1] Allow 1 credit for August 12 *or* 13 *or* 14.

68 [1] Allow 1 credit if the center of the student’s **X** is placed within the brackets shown.



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

- The Moon phases repeat in a definite pattern.
- The visible part of the Moon increases and decreases repeatedly.

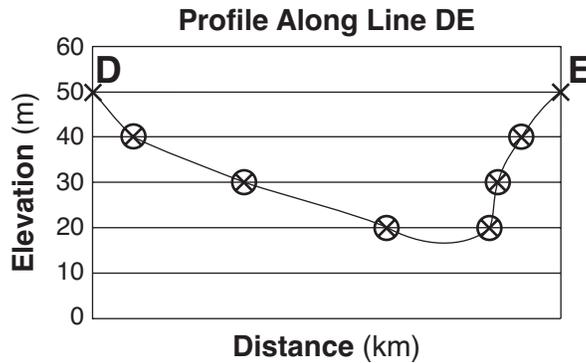
70 [1] Allow 1 credit for 10 m.

71 [2] Allow a maximum of 2 credits, allocated as follows:

- Allow 1 credit for any value from 18.9 to 21.1.
- Allow 1 credit for the correct units. Acceptable units include, but are not limited to:
 - m/km
 - meters/km
 - m/kilometer

72 [2] Allow a maximum of 2 credits, allocated as follows:

- Allow 2 credits if the centers of five or six **X**s are located within the circles shown on the profile and are correctly connected with a line that passes within the circles. The line must have the lowest elevation between 10 and 20 meters.
- Allow 1 credit if the centers of five or six **X**s are located within the circles shown on the profile but the line is *not* correctly drawn or is missing.



73 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Contour lines between *N* and *M* are closer together.
- There is a steeper slope between *N* and *M*.
- Where contour lines are far apart, there is a gentle slope and the stream velocity is less.

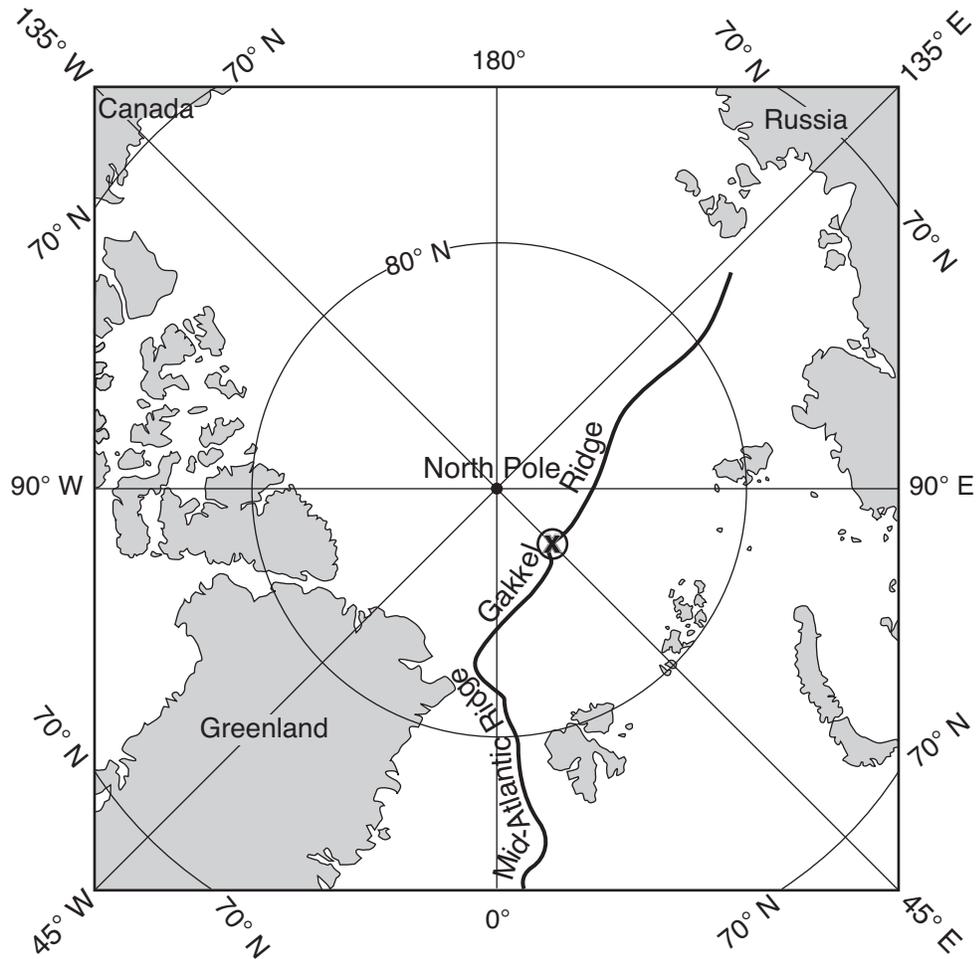
74 [1] Allow 1 credit for a response from 6.0 to 6.2.

75 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- the lag time between the *P*-wave arrival and the *S*-wave arrival
- the difference in arrival time for the *P*-wave and *S*-wave
- the *P*-wave and *S*-wave arrival times
- 61 seconds

76 [1] Allow 1 credit for any answer from 2 minutes 0 seconds to 2 minutes 20 seconds.

77 [1] Allow 1 credit if the center of the **X** falls within the circle shown.



78 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The plates are moving apart or spreading.
- The tectonic plates are moving away from each other.
- The ridge is a diverging plate boundary.
- rifting

79 [1] Allow 1 credit for *both* North American Plate and Eurasian Plate.

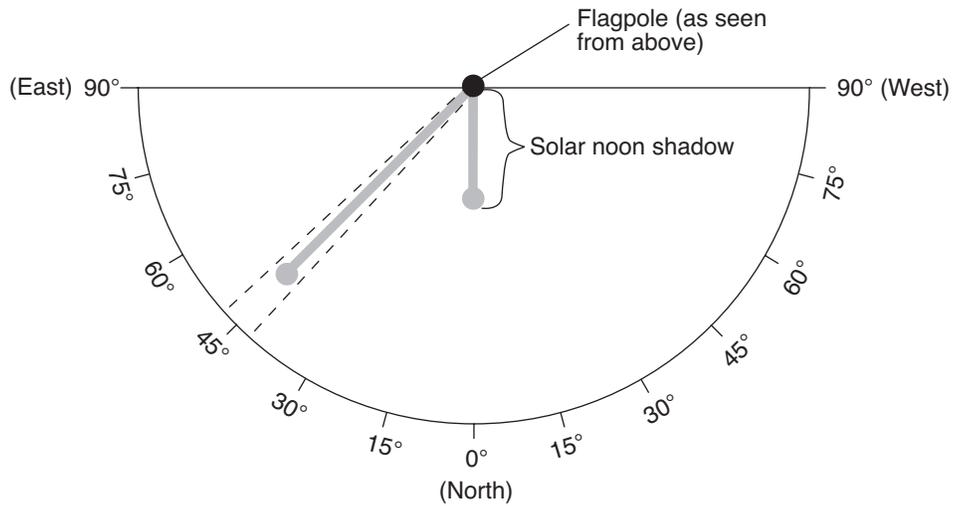
80 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- magma/lava
- volcanoes
- smoker vents

81 [1] Allow 1 credit for *both* pyroxene (augite) and olivine.

82 [2] Allow a maximum of 2 credits, allocated as follows:

- Allow 1 credit if the shadow three hours later is drawn within the dashed lines shown below.
- Allow 1 credit if the length of the shadow after three hours is longer than the solar noon shadow. Allow this credit even if the direction of the shadow is incorrectly drawn.



Regents Examination in Physical Setting/Earth Science

June 2007

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

The *Chart for Determining the Final Examination Score for the June 2007 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 19, 2007. 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 On-line 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 on-line 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

June 2007 Physical Setting/Earth Science			
Question Numbers			
Key Ideas/Performance Indicators	Part A	Part B	Part C
Standard 1			
Math Key Idea 1			71,72,73,74,75
Math Key Idea 2	27,30,35		67,69
Math Key Idea 3	30	41	74
Science Inquiry Key Idea 1		36,37,40,45,47, 56,59,61	65,66,68,69,82
Science Inquiry Key Idea 2			68
Science Inquiry Key Idea 3	8,14,16,22,23,24, 33	42,43,54,57,60, 63,64	73,76,79,81
Engineering Design Key Idea 1			
Standard 2			
Key Idea 1		52	
Key Idea 2			
Key Idea 3			
Standard 6			
Key Idea 1		46,48,49,51,55	
Key Idea 2	3,9,13,17,21,25, 26,28,29,31,32, 33,34	36,37,38,43,44, 45,46,47,48,49, 50,51,52,54,55, 58,60,62	65,68,70,71,72, 73,74,75,77,78, 79,80,82
Key Idea 3	35	39,58	70,74
Key Idea 4			
Key Idea 5	26	38,41,52,56,57	66,67,69,71,73, 82
Key Idea 6			
Standard 7			
Key Idea 1			
Key Idea 2		53	
Standard 4			
Key Idea 1	1,2,4,7,9,16,20, 22,25,26,34,35	36,37,38,39,40, 41,42,45,54,55, 56,57	65,66,67,68,69, 77,82
Key Idea 2	3,4,5,6,8,10,11, 13,15,17,19,21, 23,27,28,29,31, 32	37,43,44,46,47, 48,49,50,51,52, 53,58,59,60,61	70,71,72,73,74, 75,76,78,79,80
Key Idea 3	12,14,18,24,30, 33	62,63,64	81
Reference Tables			
ESRT 2001 Edition (Revised)	6,8,12,13,14,16, 18,19,20,22,23, 24,29,30,31,32, 33,35	42,43,46,47,51, 52,54,57,58,62, 63,64	67,71,75,76,78, 79,81

