FOR TEACHERS ONLY

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

PS–ES PHYSICAL SETTING/EARTH SCIENCE

Friday, June 20, 2008 — 1:15 to 4:15 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	2	13	1	25	4
2	1	14	2	26	1
3	4	15	3	27	1
4	2	16	2	28	3
5	1	17	4	29	4
6	2	18	3	30	2
7	4	19	4	31	3
8	3	20	3	32	4
9	3	21	3	33	2
10	1	22	2	34	4
11	2	23	1	35	4
12	2	24	2		

Part B–1

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

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 Friday, June 20, 2008. 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.

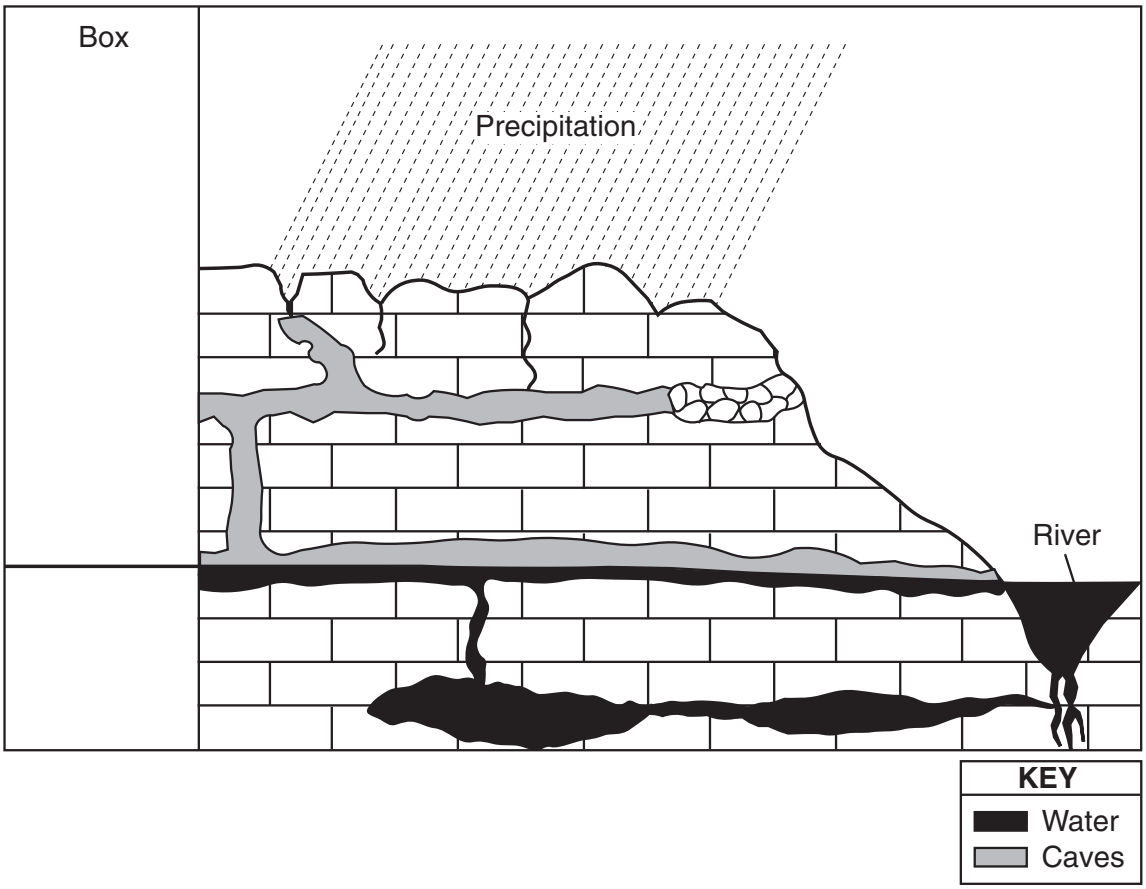
Because scaled scores corresponding to raw scores in the conversion chart may change from one examination to another, it is crucial that for each administration, the conversion chart provided for that administration be used to determine the student's final score.

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. The student's line must be at the same level as the black line shown below.

Example of a 1-credit response:



52 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The acid rain dissolves the limestone.

— The calcite in limestone chemically reacts with the acid.

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

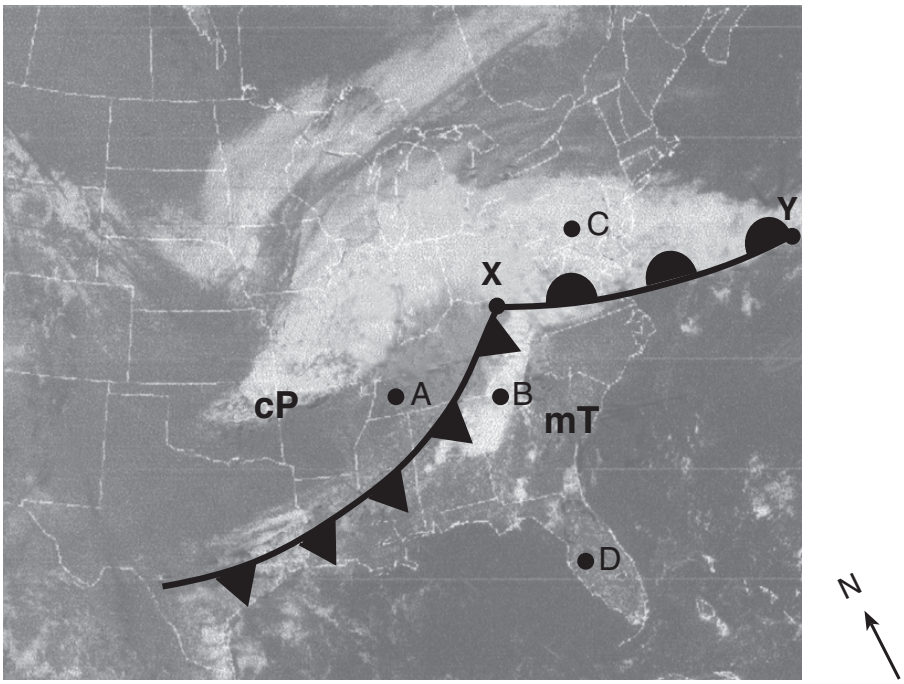
— burning fossil fuels

— exhaust emission from automobiles

— smoke from factories

54 [1] Allow 1 credit for the warm-front symbol drawn on the correct side of line *XY*.

Example of a 1-credit response:



55 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— condensation

— expanding air

— cooling to the dewpoint

— rising air

— deposition (sublimation)

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

— Location *A* is influenced by a cold, dry air mass.

— Location *A* has clear skies.

— Location *B* is in a warm, moist air mass.

— Location *B* has cloud cover.

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

— Location *C* is cooler because it is farther north.

— *C* is in a continental polar air mass, which is cold, dry air.

— Location *C* has clouds that block some of the sunlight.

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

— east

— northeast

— ENE

59 [1] Allow 1 credit for Mercury.

60 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— These moons orbit Jupiter, not Earth.

— The geocentric model has all celestial objects revolving around Earth.

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

— *P*-waves can travel through the liquid outer core, but *S*-waves cannot.

— *P*-waves travel through all parts of Earth's interior.

— *S*-waves do not pass through the outer core.

62 [1] Allow 1 credit for any value from 2800 to 3000 km.

63 [1] Allow 1 credit for any value from 1408 to 1409 millions of cubic kilometers.

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

— The oceans cover a larger portion of Earth's surface than the continents.

— Air over oceans has more moisture than air over land.

— More evaporation occurs over the oceans.

65 [1] Allow 1 credit for *two* acceptable characteristics. Acceptable responses include, but are not limited to:

— slope of the land surface

— soil type or composition

— vegetation or lack of vegetation

— land use/a paved surface

— degree of soil saturation

— porosity of the soil

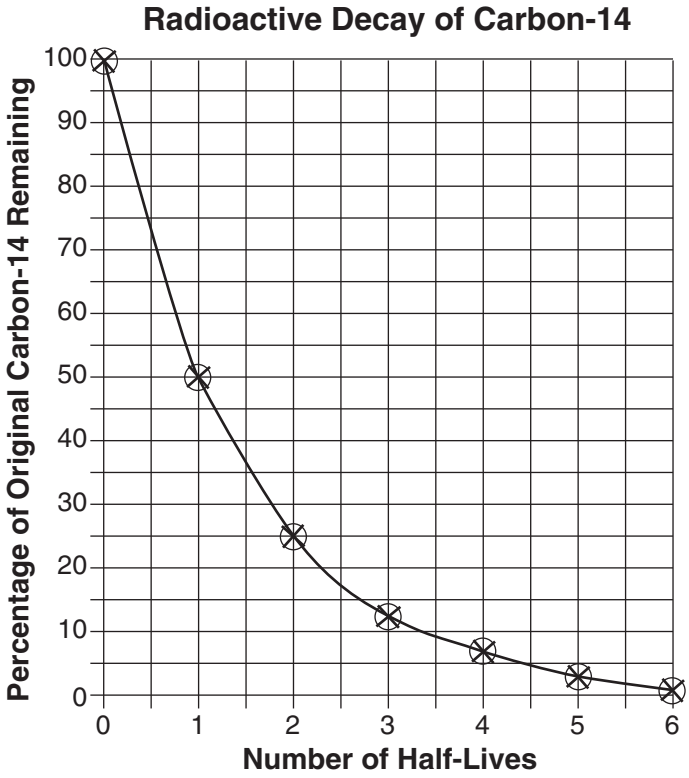
— permeability or impermeability of the surface

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 the centers of all **X**s are correctly plotted within the circles shown below and the **X**s are correctly connected with a line that falls within the circles.

Example of a 1-credit graph:



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

67 [1] Allow 1 credit for 22,800 yr.

68 [1] Allow 1 credit for tree trunk and an acceptable explanation. Acceptable explanations include, but are not limited to:

— The tree trunk is a recent organic remain.

— Carbon-14 is used to date recent remains.

69 [1] Allow 1 credit for chromium *or* Cr.

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

— hardness

— luster

— crystal shape

71 [1] Allow 1 credit for marble.

72 [1] Allow 1 credit for Eocene Epoch.

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

— convergent plate boundary

— subduction zone

— collision boundary

74 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The Sun will appear higher in the sky as Earth moves to position *B*, then lower in the sky as it moves to position *C*.

— The angle increases as it approaches *B*, and decreases as it approaches *C*.

— The altitude will increase, then decrease.

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

— On an equinox, all locations will have the same duration of insolation.

— The Sun's direct rays are at the equator on this day.

— Each location is in sunlight for half of the 24-hour Earth rotation.

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

— Earth's Northern Hemisphere is tilted away from the Sun.

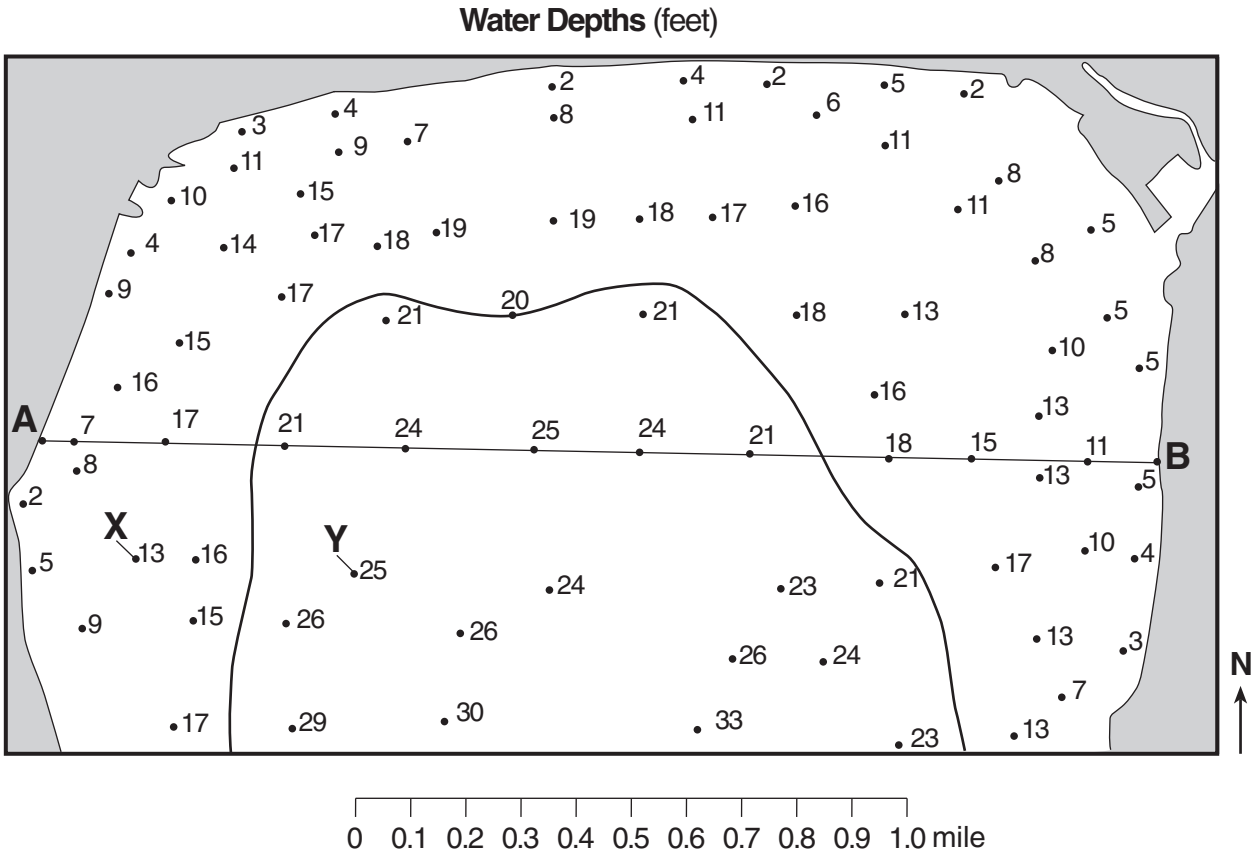
— The Arctic Circle is dark and has 24 hours of night.

— Less sunlight is received in the Northern Hemisphere.

77 [1] Allow 1 credit for 4 p.m. *or* 1600 hours. Do *not* allow credit for 4 or 4 a.m.

78 [1] Allow 1 credit for correctly drawing the 20-foot-depth isoline. It must extend to the edge of the map to receive credit. If other isolines are drawn, all lines must be correct to receive credit.

Example of a 1-credit response:



79 [2] Allow a maximum of 2 credits, allocated as follows:

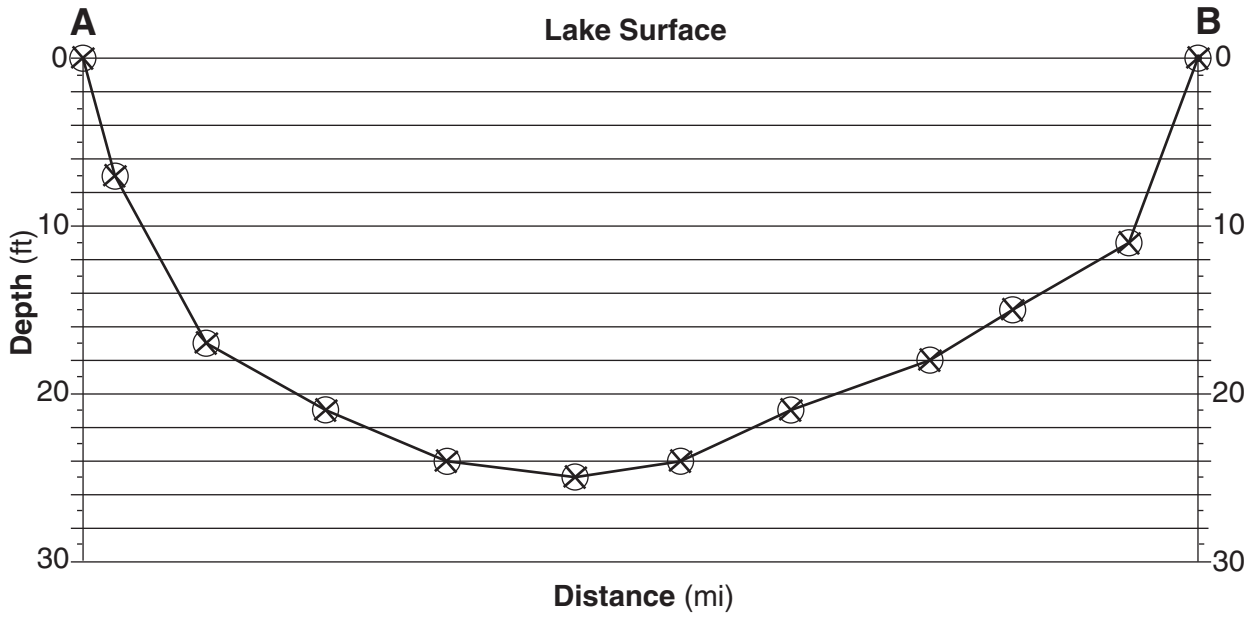
Allow 2 credits if the centers of all ten student-plotted **X**s are within the circles shown below and the **X**s are correctly connected with a line that falls within the circles.

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 all ten student-plotted **X**s are within the circles shown below, but *not* correctly connected with a line.

Example of a 2-credit response:



80 [1] Allow 1 credit for any value from 28 to 32 with correct units. Acceptable units include, but are not limited to:

— feet/mile

— ft/mi

— feet per mile

81 [1] Allow 1 credit if all values, units, and compass directions for latitude and longitude are correct, as shown.

Latitude: 34° N

Longitude: 118.5° W

118° 30' W

82 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— It is near a plate boundary.

— The San Andreas Fault is nearby.

— The bedrock contains many faults.

83 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Oakland is farthest from the epicenter.

84 [1] Allow 1 credit for *two* acceptable responses. Acceptable responses include, but are not limited to:

— secure heavy objects

— prepare an emergency medical kit

— plan an evacuation route

— locate the nearest shelter

— reinforce house structure

Regents Examination in Physical Setting/Earth Science

June 2008

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

The *Chart for Determining the Final Examination Score for the June 2008 Regents Examination in Physical Setting/Earth Science* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Friday, June 20, 2008. 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 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

June 2008 Physical Setting/Earth Science			
Question Numbers			
Key Ideas/Performance Indicators	Part A	Part B	Part C
Standard 1			
Math Key Idea 1		63	66, 79, 80
Math Key Idea 2	26, 30, 33	37, 38, 41, 42, 43	
Math Key Idea 3		59	67
Science Inquiry Key Idea 1	1, 4, 14	36, 39, 44, 45, 50, 52, 60, 64	68, 69, 82
Science Inquiry Key Idea 2			
Science Inquiry Key Idea 3	6	37, 38, 46, 47, 59	71, 72
Engineering Design Key Idea 1			
Standard 2			
Key Idea 1			
Key Idea 2			
Key Idea 3			
Standard 6			
Key Idea 1		65	69, 70
Key Idea 2	10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 26, 27, 28, 29, 31, 32, 35	36, 40, 45, 48, 49, 51, 54, 55, 56, 57, 58, 61, 62, 63	71, 73, 74, 75, 76, 77, 78, 79, 81, 82, 83
Key Idea 3	2		80, 81
Key Idea 4			
Key Idea 5	12	55, 56, 57, 58	67, 80
Key Idea 6			
Standard 7			
Key Idea 1		53	
Key Idea 2			84
Standard 4			
Key Idea 1	1, 2, 3, 4, 5, 10, 11, 12, 13, 15, 20, 21, 22	36, 37, 38, 39, 44, 45, 51, 59, 60, 63, 64, 65	66, 67, 68, 72, 77, 81
Key Idea 2	6, 7, 8, 9, 14, 16, 17, 18, 19, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33	39, 40, 41, 42, 43, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 61, 62	73, 74, 75, 76, 78, 79, 80, 82, 83, 84
Key Idea 3	26, 34, 35	46, 47	69, 70, 71
Reference Tables			
ESRT 2001 Edition (Revised)	2, 3, 6, 14, 16, 18, 20, 21, 23, 24, 25, 26, 33, 34, 35	37, 38, 46, 47, 54, 59, 62	67, 71, 72, 73, 80, 82