

# FOR TEACHERS ONLY

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

## PS-ES PHYSICAL SETTING/EARTH SCIENCE

Wednesday, June 17, 2009 — 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			Part B-1	
1 . . . . . <b>1</b> . . . . .	13 . . . . . <b>1</b> . . . . .	25 . . . . . <b>4</b> . . . . .	36 . . . . . <b>2</b> . . . . .	44 . . . . . <b>4</b> . . . . .
2 . . . . . <b>3</b> . . . . .	14 . . . . . <b>2</b> . . . . .	26 . . . . . <b>1</b> . . . . .	37 . . . . . <b>4</b> . . . . .	45 . . . . . <b>2</b> . . . . .
3 . . . . . <b>4</b> . . . . .	15 . . . . . <b>2</b> . . . . .	27 . . . . . <b>4</b> . . . . .	38 . . . . . <b>2</b> . . . . .	46 . . . . . <b>2</b> . . . . .
4 . . . . . <b>3</b> . . . . .	16 . . . . . <b>1</b> . . . . .	28 . . . . . <b>1</b> . . . . .	39 . . . . . <b>4</b> . . . . .	47 . . . . . <b>1</b> . . . . .
5 . . . . . <b>3</b> . . . . .	17 . . . . . <b>2</b> . . . . .	29 . . . . . <b>3</b> . . . . .	40 . . . . . <b>3</b> . . . . .	48 . . . . . <b>4</b> . . . . .
6 . . . . . <b>1</b> . . . . .	18 . . . . . <b>4</b> . . . . .	30 . . . . . <b>4</b> . . . . .	41 . . . . . <b>1</b> . . . . .	49 . . . . . <b>2</b> . . . . .
7 . . . . . <b>3</b> . . . . .	19 . . . . . <b>4</b> . . . . .	31 . . . . . <b>3</b> . . . . .	42 . . . . . <b>4</b> . . . . .	50 . . . . . <b>2</b> . . . . .
8 . . . . . <b>3</b> . . . . .	20 . . . . . <b>3</b> . . . . .	32 . . . . . <b>4</b> . . . . .	43 . . . . . <b>2</b> . . . . .	
9 . . . . . <b>2</b> . . . . .	21 . . . . . <b>1</b> . . . . .	33 . . . . . <b>2</b> . . . . .		
10 . . . . . <b>2</b> . . . . .	22 . . . . . <b>4</b> . . . . .	34 . . . . . <b>3</b> . . . . .		
11 . . . . . <b>3</b> . . . . .	23 . . . . . <b>3</b> . . . . .	35 . . . . . <b>1</b> . . . . .		
12 . . . . . <b>1</b> . . . . .	24 . . . . . <b>3</b> . . . . .			



**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, June 17, 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. Acceptable responses include, but are not limited to:

- The Sun has a greater gravitational attraction for particles than Earth does.
- The Sun has a larger mass than Earth.
- The more massive object has more gravity.

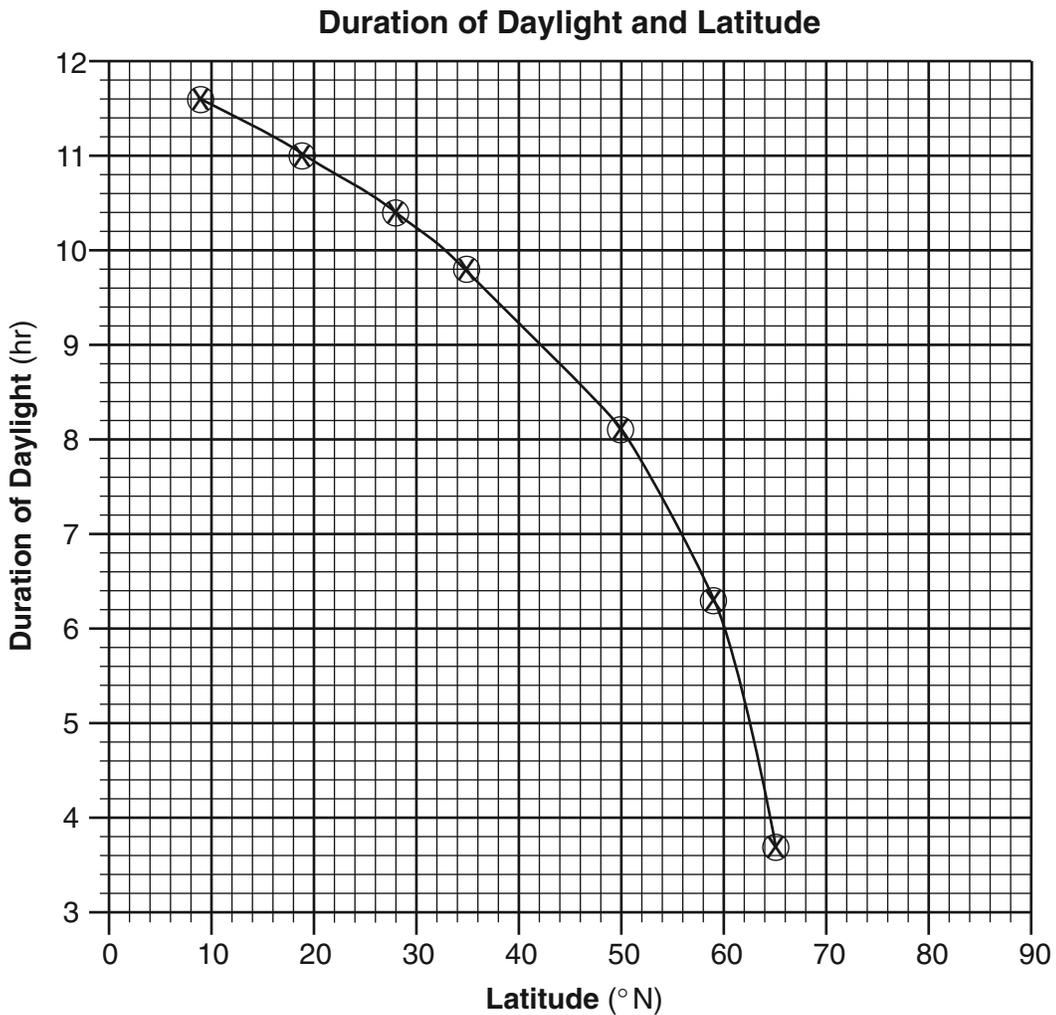
**52** [1] Allow 1 credit for thermosphere.

**53** [1] Allow 1 credit for any response between 227.9 and 778.3 million kilometers.

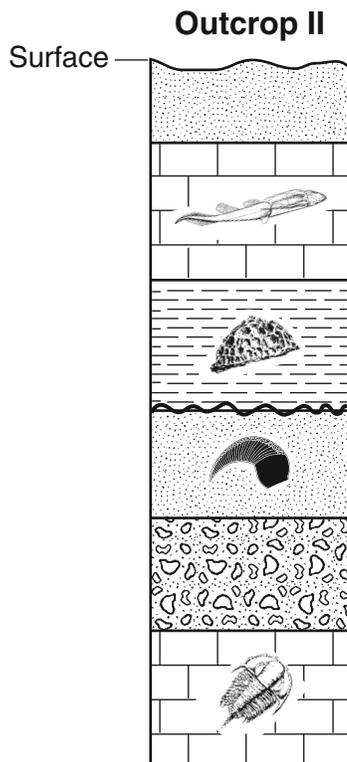
**54** [1] Allow 1 credit if the center of all **Xs** are plotted within the circles shown and are correctly connected with a smooth, curved line that passes through the circles.

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

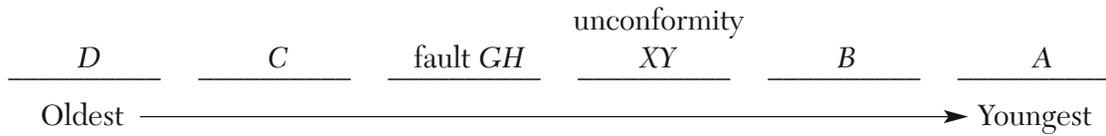
**Example of a 1-credit response:**



- 55 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- As latitude increases, the duration of daylight decreases.
  - Higher latitudes have shorter daylight periods. Lower latitudes have longer daylight periods.
  - It is an inverse relationship.
- 56 [1] Allow 1 credit for a correct answer  $\pm 1^\circ$  based on the student-drawn graph. For example, on the graph shown, the answer should be  $56^\circ \pm 1^\circ$  N.
- 57 [1] Allow 1 credit for winter.
- 58 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- wide geographic distribution
  - existed for a short period of geologic time
- 59 [1] Allow 1 credit for placing the symbol  between the layers shown below.



**60** [1] Allow 1 credit for the correct sequence shown below.



**61** [1] Allow 1 credit for *C* and *G*.

**62** [1] Allow 1 credit for any value from 29 to 30 days.

**63** [1] Allow 1 credit for *E* or full Moon.

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

- As temperature increases, luminosity increases.
- This is a direct relationship.

**65** [1] Allow 1 credit for red giants or giants.

**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. Acceptable responses include, but are not limited to:

- Gulf of Mexico
- a warm ocean surface

**67** [1] Allow 1 credit for warm front.

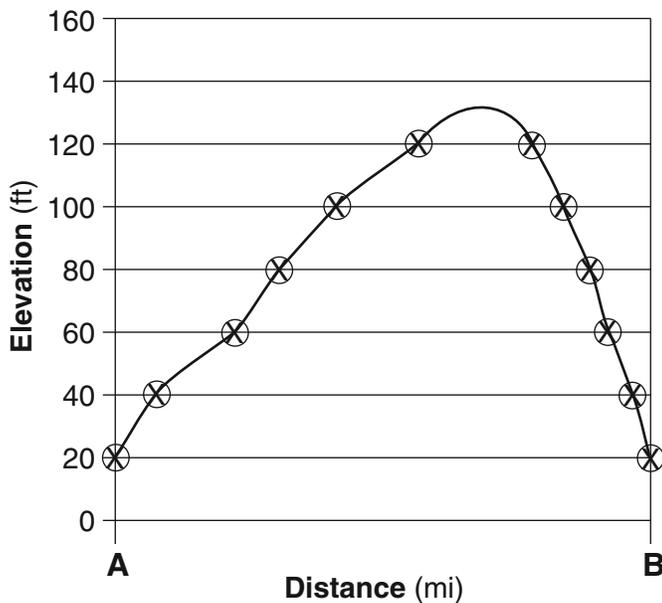
**68** [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- condensation
- expansion
- cooling
- deposition/sublimation

**69** [1] Allow 1 credit if the centers of ten to twelve **Xs** are within the circles shown below and are correctly connected with a smooth, curved line that passes through the circles and extends above 120 feet but below 140 feet.

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

**Example of a 1-credit response:**



**70** [1] Allow 1 credit for any value from 18 to 22 with the correct units. Acceptable units include, but are not limited to:

- ft/mi
- feet/mile

**71** [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- southeast
- SE
- northwest to southeast

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

- The contour lines are closer together.
- More closely spaced contour lines indicate a steeper gradient.

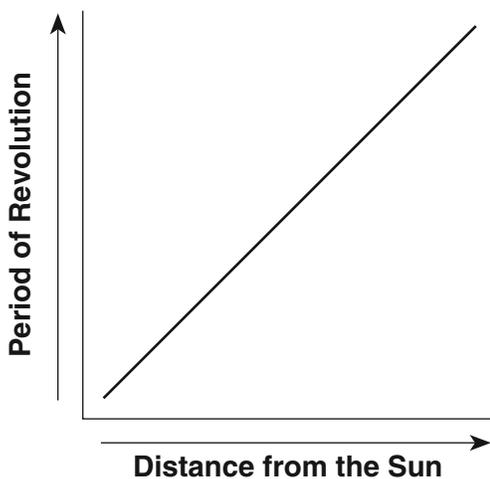
**73** [1] Allow 1 credit for Jupiter.

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

- Earth’s rotation causes day and night.
- The daily change from day to night results from Earth’s spin on its axis.

**75** [1] Allow 1 credit for a line graph which shows a direct relationship.

**Example of a 1-credit response:**



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

- The geocentric model has Earth in the center.
- In a geocentric model Earth does not rotate.
- Planets revolve around Earth instead of the Sun.

77 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- transform boundary
- transform fault

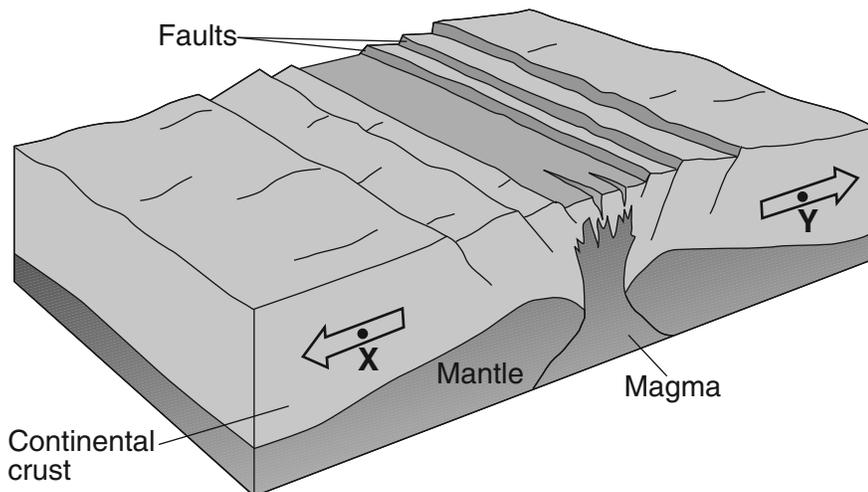
78 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- subduction of Arabian Plate
- convergence

79 [1] Allow 1 credit if *both* arrows show correct directions, even if the arrows do *not* pass through the points.

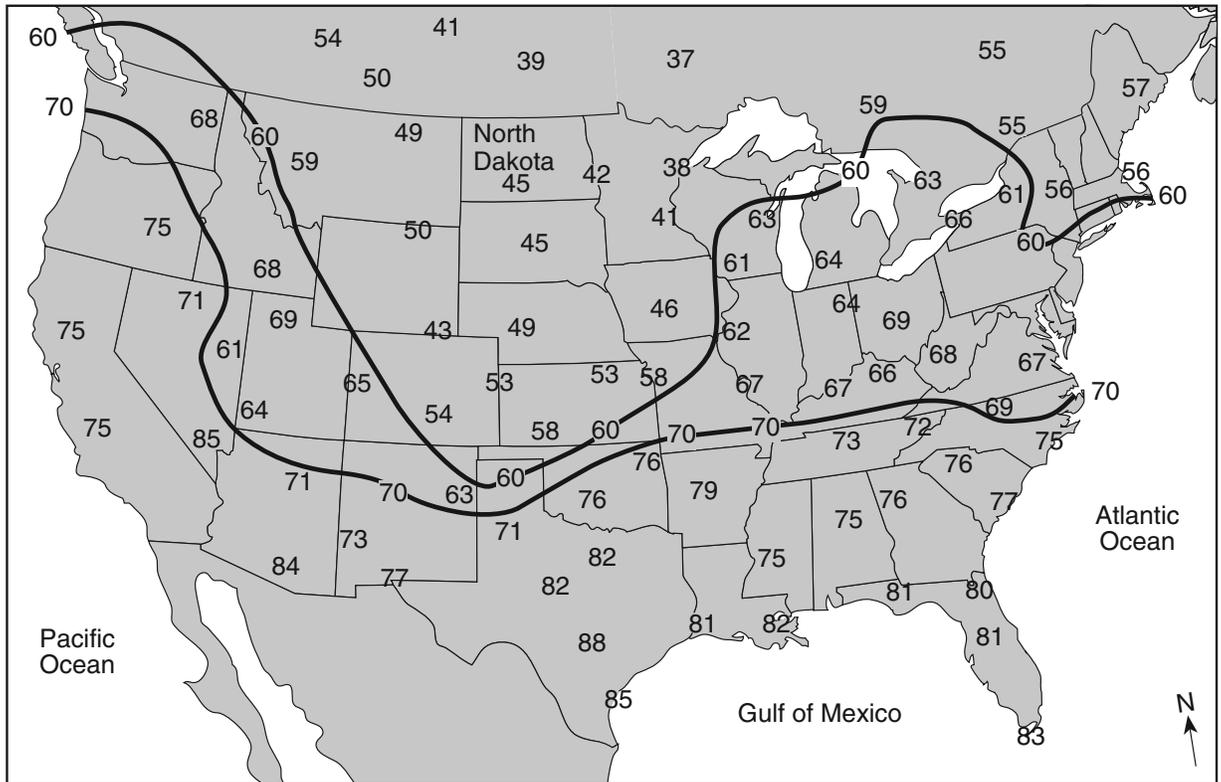
**Example of a 1-credit response:**

**East African Rift**



- 80 [1] Allow 1 credit for a correctly drawn 70°F isotherm. The isotherm must extend to the edges of the continent. If additional isotherms are drawn, all isotherms must be correct to receive credit.

**Example of a 1-credit response:**



- 81 [1] Allow 1 credit for cP or cA. Allow credit for either uppercase or lowercase letters.

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

- 82 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The dangers of asbestos fibers were realized.
  - Concern over the health risk of asbestos resulted in less use.
  - Exposure to high concentrations of asbestos leads to health problems.

- 83 [1] Allow 1 credit for Adirondacks or Adirondack Mountains or Grenville Province.

- 84** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- the internal arrangement of atoms
  - chemical composition
  - the environment in which they form
  - chains of silicate tetrahedra

- 85** [1] Allow 1 credit for talc.

## Regents Examination in Physical Setting/Earth Science

June 2009

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

**The *Chart for Determining the Final Examination Score for the June 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, June 17, 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.**

#### **Online Submission of 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](http://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

<b>June 2009 Physical Setting/Earth Science</b>			
<b>Question Numbers</b>			
Key Ideas/Performance Indicators	Part A	Part B	Part C
<b>Standard 1</b>			
Math Key Idea 1	8	44, 54	69, 70, 75
Math Key Idea 2	9, 10, 14, 22, 25	41, 50, 52, 53, 55, 56, 64, 65	
Math Key Idea 3			80
Science Inquiry Key Idea 1	1, 15, 18, 19, 24, 29	49, 57, 58, 59	74, 76, 84
Science Inquiry Key Idea 2			
Science Inquiry Key Idea 3			
Engineering Design Key Idea 1			
<b>Standard 2</b>			
Key Idea 1			
Key Idea 2			
Key Idea 3			
<b>Standard 6</b>			
Key Idea 1	11, 16, 32	38, 42, 46, 47, 48, 63	66, 68, 79
Key Idea 2	4, 5, 13, 17, 28, 33, 35	36, 39, 43, 45, 49, 60, 61, 63	67, 71, 72, 73, 76, 77, 78, 79, 80, 81, 83
Key Idea 3			70, 72
Key Idea 4		51	
Key Idea 5	3, 6, 23, 26, 27, 30, 31	40, 42, 56, 60, 61, 62	67
Key Idea 6			
<b>Standard 7</b>			
Key Idea 1			82
Key Idea 2			
<b>Standard 4</b>			
Key Idea 1	1, 2, 4, 5, 6, 8, 10, 21, 22, 23, 24, 25, 28, 30	39, 40, 41, 42, 44, 51, 53, 55, 57, 58, 59, 60, 61, 62, 63, 64, 65	73, 74, 75, 76, 83
Key Idea 2	3, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20, 26, 27, 31, 32, 35	36, 37, 38, 43, 45, 47, 48, 49, 50, 52, 54, 55, 56	66, 67, 68, 69, 70, 71, 72, 77, 78, 79, 80, 81 83
Key Idea 3	19, 29, 33, 34	46	82, 84, 85
<b>Reference Tables</b>			
ESRT 2001 Edition (Revised)	7, 8, 11, 13, 14, 19, 21, 22, 23, 25, 26, 28, 29, 30, 33, 34	36, 41, 43, 44, 46, 50, 52, 53, 59, 60, 64, 65	67, 70, 73, 75, 77, 78, 81, 83, 85





