

FOR TEACHERS ONLY

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

ES-PM

EARTH SCIENCE PROGRAM MODIFICATION EDITION

Thursday, June 15, 2000 — 9:15 a.m. to 12:15 p.m., only

SCORING KEY

Directions to the Teacher:

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

Scan each answer paper to make certain that the student has marked only one answer for each question. If a student has marked two or more answers with an X in ink, draw a red line through the row of numbers for that question to indicate that no credit is to be allowed for that question when the answer paper is scored.

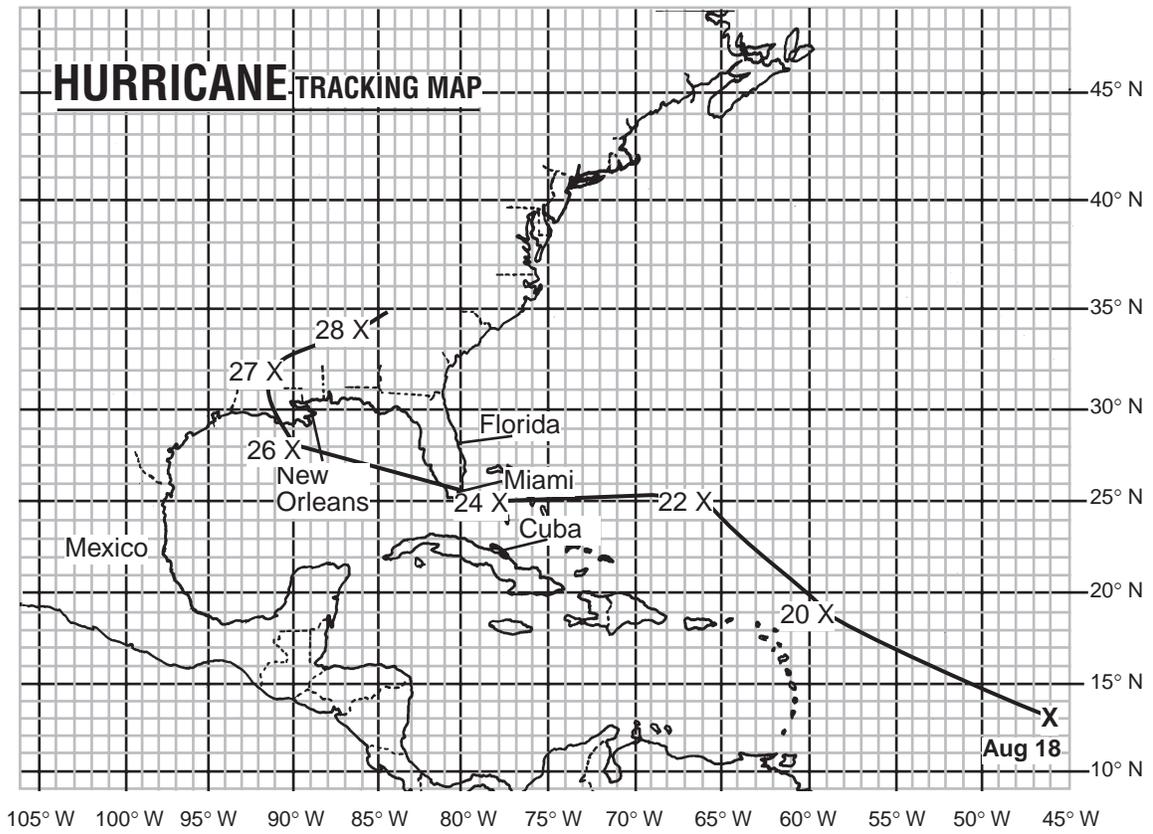
To facilitate scoring, the scoring key for **Part I and Part II** may be made into a scoring stencil by punching out the correct answers. Be sure that the stencil is aligned with the answer paper so that the holes correspond to the correct answers. To aid in proper alignment, punch out the first and last item numbers in each part and place the stencil on the answer paper so that these item numbers appear through the appropriate holes.

Part I

Allow a total of 40 credits for Part I, one credit for each correct answer.

1	1	X	3	4	15	X	2	3	4	29	1	2	X	4
2	1	2	3	X	16	1	2	X	4	30	1	X	3	4
3	1	2	3	X	17	1	2	X	4	31	X	2	3	4
4	1	X	3	4	18	1	2	X	4	32	1	2	3	X
5	1	2	3	X	19	1	2	3	X	33	1	X	3	4
6	X	2	3	4	20	1	X	3	4	34	1	X	3	4
7	1	2	X	4	21	X	2	3	4	35	1	2	X	4
8	1	X	3	4	22	1	2	X	4	36	1	2	X	4
9	X	2	3	4	23	1	2	3	X	37	X	2	3	4
10	1	2	3	X	24	X	2	3	4	38	1	X	3	4
11	1	2	3	X	25	1	2	X	4	39	X	2	3	4
12	X	2	3	4	26	1	X	3	4	40	1	2	3	X
13	1	2	X	4	27	X	2	3	4					
14	1	X	3	4	28	1	2	X	4					

73 Example



73 [3] See the back of the Scoring Key for Part I for example.

a Allow 1 credit for 5 or 6 correctly plotted points.

b Allow 1 credit if all student plotted points are correctly labeled.

c Allow 1 credit for connecting all student plotted points.

74 [1] Allow 1 credit for **decreasing**.

75 [1] Allow 1 credit for a scientifically correct answer.

Examples: A hurricane will lose its source of energy when it moves over land.
Winds decrease due to a lower pressure gradient.

76 [3] Allow 1 credit for each correctly completed circle.

A **metamorphic**

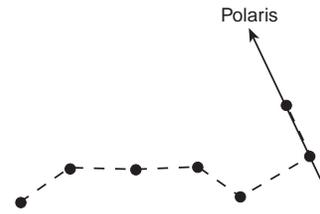
B **extrusive or volcanic**

C **conglomerate or breccia or sandstone or siltstone or shale**

77 [1] Allow 1 credit for **fog**.

78 [1] Allow 1 credit for **100%**.

79 [1] Allow 1 credit for correctly drawing an arrow in the direction of Polaris.

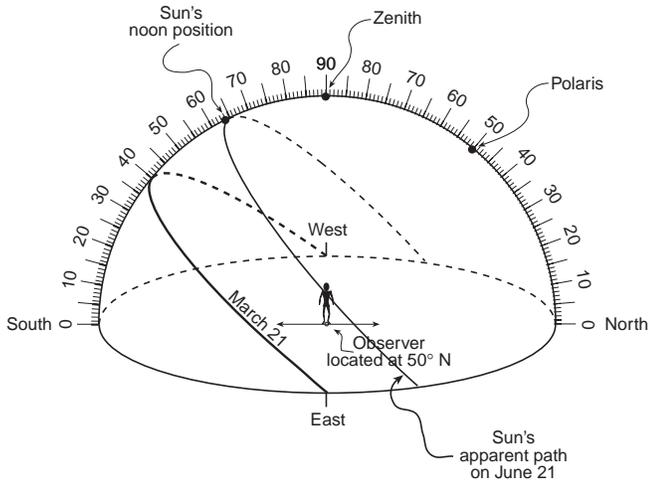


79 [1] Allow 1 credit for correctly drawing an arrow in the direction of Polaris.

This credit may be allowed even if the arrow does not pass through two stars, as long as the arrow shows the correct direction to Polaris.

A diagram showing a dashed line connecting several points. An arrow points from the rightmost point towards a point labeled 'Polaris'.

80–82



80 [1] Allow 1 credit for the correct placement of Polaris at 50° above the North horizon.

81 [1] Allow 1 credit for the correct placement of the zenith at 90° above the horizon.

82 [1] Allow 1 credit for the correct drawing of the Sun's path with the noon position at 40° above the South horizon. The path must begin at due east and end at due west.

83 [1] Allow 1 credit for a scientifically correct answer.

Examples: recycle these minerals
reduce the use of products made from these resources

84 [3] *a* Allow 1 credit for correctly recording the equation. (The student must give the answer in the form of an equation, which must include “eccentricity = ” or “ $e =$ ”.)

Examples:
$$\text{eccentricity} = \frac{\text{distance between foci}}{\text{length of major axis}}$$

$$e = \frac{d}{\ell}$$

b Allow 1 credit for substituting both acceptable measurements into the equation given in *a* (± 0.1 cm). The student need *not* record the units.

Example:
$$e = \frac{2 \text{ cm}}{8 \text{ cm}}$$

c Allow 1 credit for correctly calculating the eccentricity based on the student's answer in *b*. (Do *not* allow this credit if a unit is given.)

Examples: $e = 0.25$ or $.25$
 $e = 0.3$ or $.3$

85 [1] Allow 1 credit for a scientifically correct answer *or* for an accurate interpretation based on the student's calculation of the eccentricity of this ellipse.

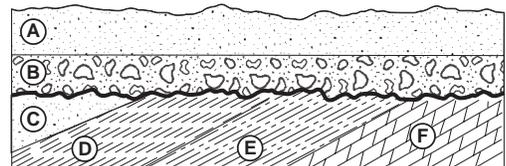
Examples: The ellipse is more eccentric than Earth's orbit.
Earth's orbit is more round.

86 [1] Allow 1 credit for **F**. (Also accept **dolostone**.)

87 [1] Allow 1 credit for **quartzite** *or* **hornfels**.

88 [1]

Cross Section I



Allow 1 credit for correctly indicating the most apparent unconformity.

Part II

Allow a total of 10 credits, one credit for each question, for only two of the six groups in this part. If the student answers more than two groups, consider only the first two groups answered.

Group A Rocks and Minerals					
41	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
43	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Group B Plate Tectonics					
46	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
47	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Group C Oceanography					
51	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
54	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
55	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Group D Glacial Processes					
56	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
60	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

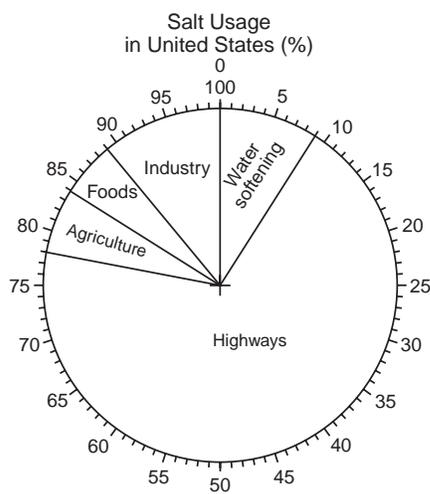
Group E Atmospheric Energy					
61	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
64	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Group F Astronomy					
66	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
67	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
69	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
70	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part III

Allow a total of 25 credits for this part. The student must answer all questions in this part.

71 [2]



Allow a maximum of 2 credits if all four student graph sections are drawn and labeled correctly. Allow only 1 credit if only 2 or 3 sections are drawn and labeled correctly. Sections may be graphed in any order.

72 [1] Allow 1 credit for **Erie-Ontario Lowlands** or **Allegheny Plateau** or **Appalachian Plateau**.