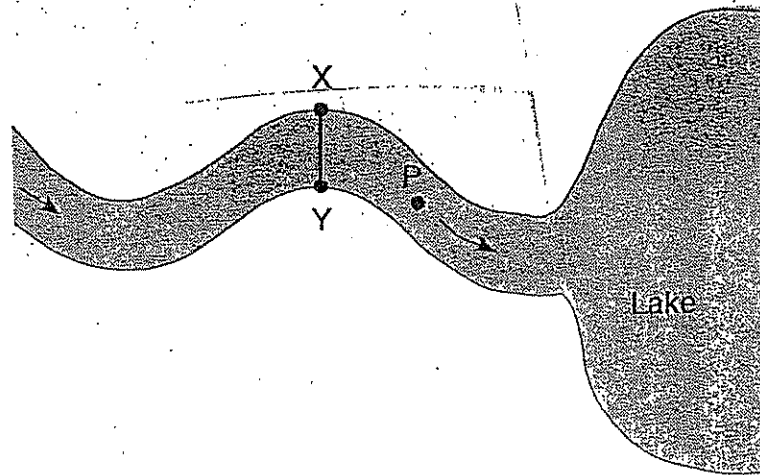Base your answers to questions 109 through 112 on the diagram and the stream data table below.

The diagram represents a stream flowing into a lake. Arrows show the direction of flow. Point P is a location in the stream. Line XY is a reference line across the stream. Points X and Y are locations on the banks. The data table gives the depth of water in the stream along line XY.



## Stream Data Table

| | Location X | | | | | | | Location Y |
|---|---|---|---|---|---|---|---|---|
| Distance from X (meters) | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| Depth of Water (meters) | 0 | 5.0 | 5.5 | 4.5 | 3.5 | 2.0 | 0.5 | 0 |

*Directions* (109–110): Use the information in the data table to construct a profile of the depth of water. Use the grid provided *on your answer paper*, following the directions below.
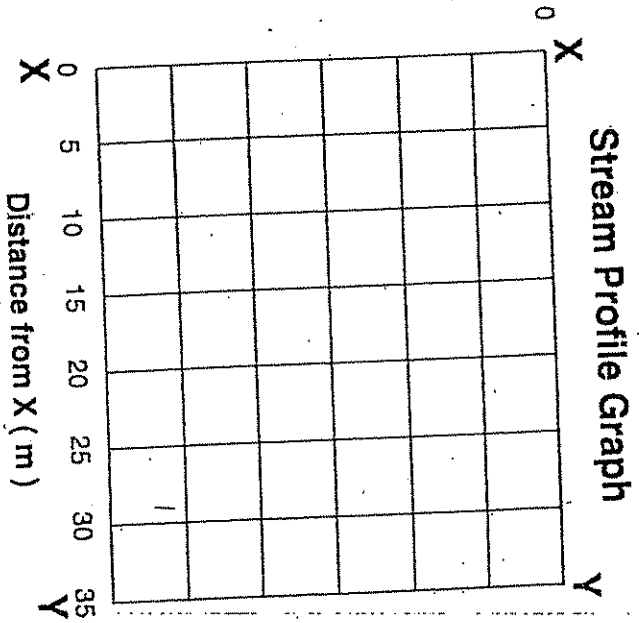
109 On the vertical axis, mark an appropriate scale for the depth of water. Note that the zero (0) at the top of the axis represents the water surface. [1]

110 Plot the data for the depth of water in the stream along line XY and connect the points. (Distance is measured from point X.) [2]

Example:
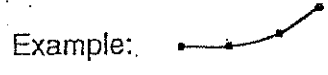
111 State why the depth of water near the bank at point X is different from the depth of water near the bank at point Y. [1]

112 At point P, the water velocity is 100 centimeters per second. State the name of the largest sediment that can be transported by the stream at point P. [1]

## Stream Profile Graph

**Depth of Water ( m )**



X      0

X   0

0  5  10  15  20  25  30  35

**Distance from X ( m )**

Y   Y

111

112

113

110

116