

Lesson 16: Relating Scale Drawings to Ratios and Rates

Classwork

Opening Exercise: Can You Guess the Image?



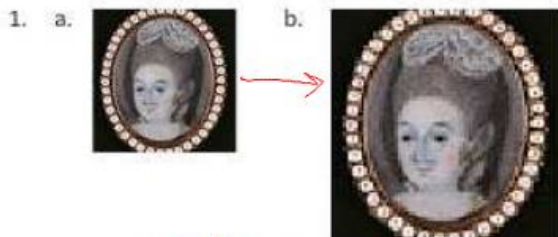
A reduction of
a subway map.



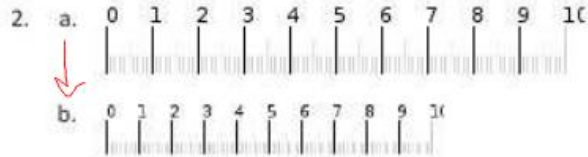
An enlargement of a fingerprint.

Example 1

For the following problems, (a) is the actual picture and (b) is the drawing. Is the drawing an enlargement or a reduction of the actual picture?



enlargement

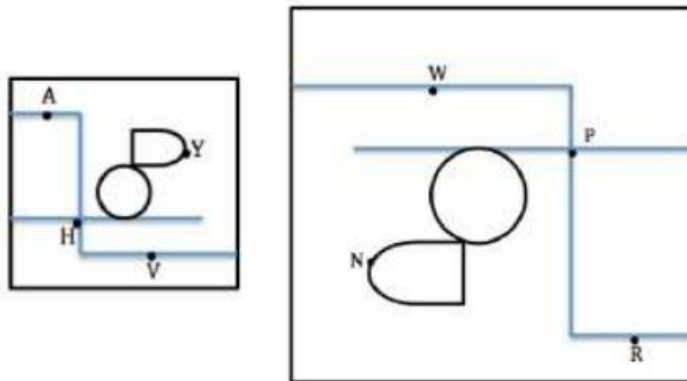


reduction

Scale Drawing: a reduced or enlarged two-dimensional drawing of an original two-dimensional drawing.

Example 2

Derek’s family took a day trip to a modern public garden. Derek looked at his map of the park that was a reduction of the map located at the garden entrance. The dots represent the placement of rare plants. The diagram below is the top-view as Derek held his map while looking at the posted map.

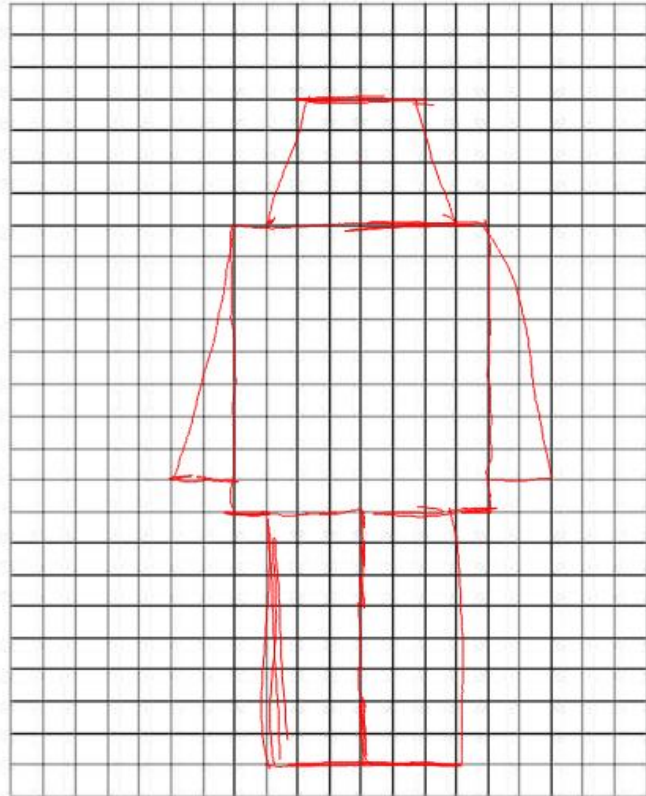
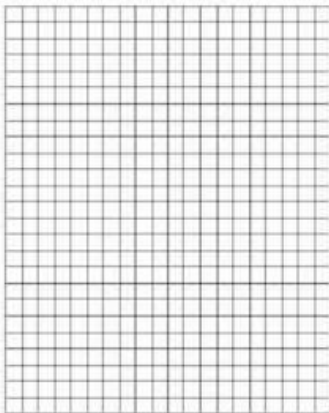
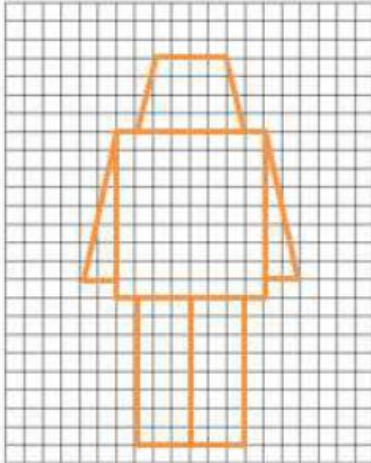


What are the corresponding points of the scale drawings of the maps?

Point A to Point R Point V to Point W Point H to Point P Point Y to Point N

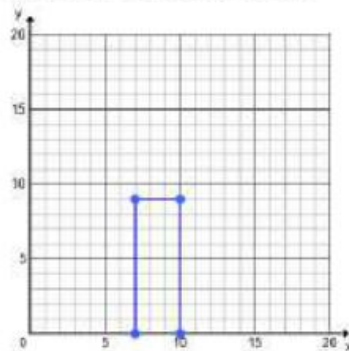
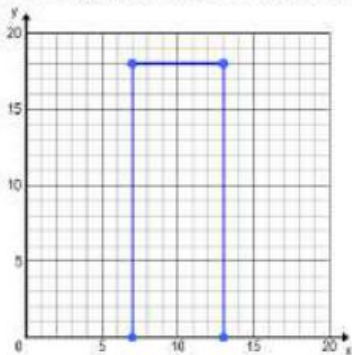
Exploratory Challenge

Create scale drawings of your own modern nesting robots using the grids provided.



Example 3

Celeste drew an outline of a building for a diagram she was making and then drew a second one mimicking her original drawing. State the coordinates of the vertices and fill in the table.



	Height	Length
Original Drawing	18	6
Second Drawing	9	3

$$r = \frac{\text{new}}{\text{original}} = \frac{9}{18} = \frac{1}{2}$$

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