

NOTES: Orthographic Drawings

Date: Nov. 9

An **orthographic drawing** is a 2D representation of a 3D object.

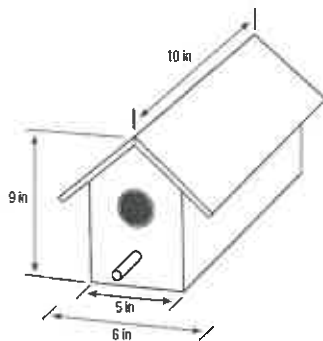
It usually consists of 3 views but can have up to 6 if the object isn't symmetrical.

Orthographic drawings should either include a scale *and* measurements (actual) on the drawing.

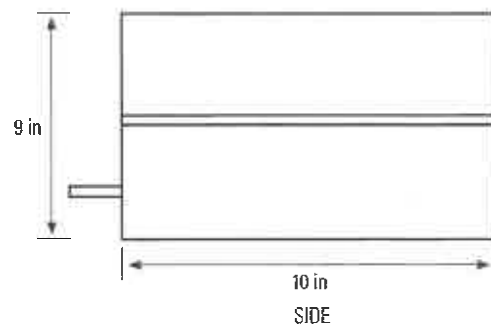
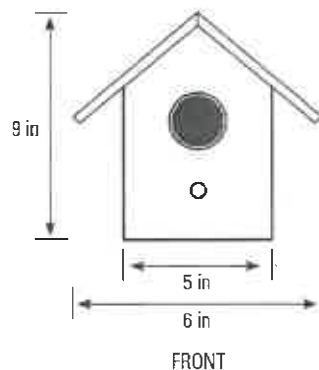
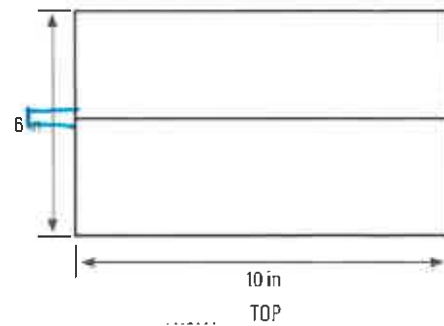
Criteria

- a) Measurements must be accurate.
- b) All lines must be drawn with a ruler.
- c) Use grid paper/graph paper and/or draw construction lines.
- d) Include details where appropriate.
- e) When labelling, use actual (real life) measurements.

Example

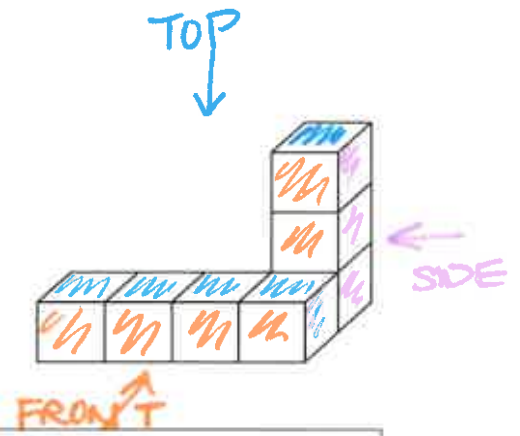


A simple birdhouse is rectangular in shape with a slanted roof. Top, front, and side views are shown below.



Example

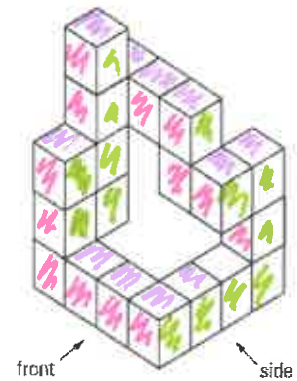
Draw top, front and side views of the given object.



Top View	Front View	Side View

Example

Draw top, front and side views of the given object.



Top View	Front View	Side View

model : original
 drawing : actual toolbox
 1 : 8

Scale factor
 $SF = \frac{M}{O} = \frac{1}{8}$

Example

Draw and label scale views (top, front and side) of the toolbox shown.

Use a scale of 1:8.

Assume that the grid squares below are $\frac{1}{4}$ ".

$\text{drawing} = \text{actual} \times \frac{1}{8}$

$\frac{24 \text{ in}}{1} \times \frac{1}{8} = \frac{24}{8} = 3''$

$\frac{10 \text{ in}}{1} \times \frac{1}{8} = \frac{10}{8} = 1\frac{2}{8} = 1\frac{1}{4}''$

