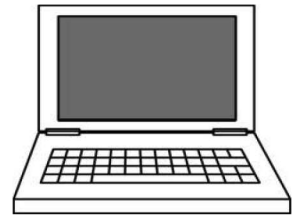
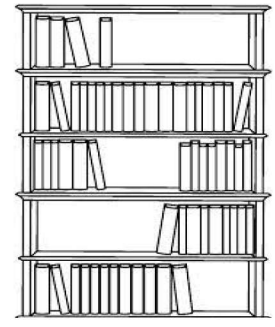
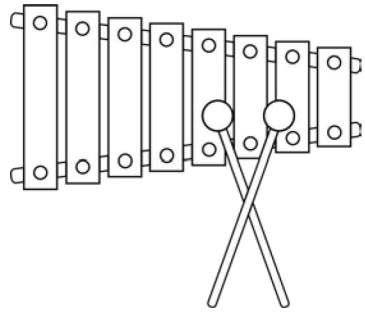
Name _____ Date _____

1. On each object, trace at least one pair of lines that appear to be perpendicular.

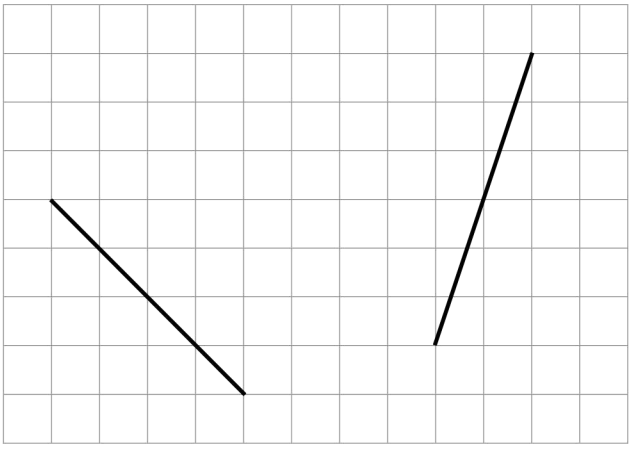


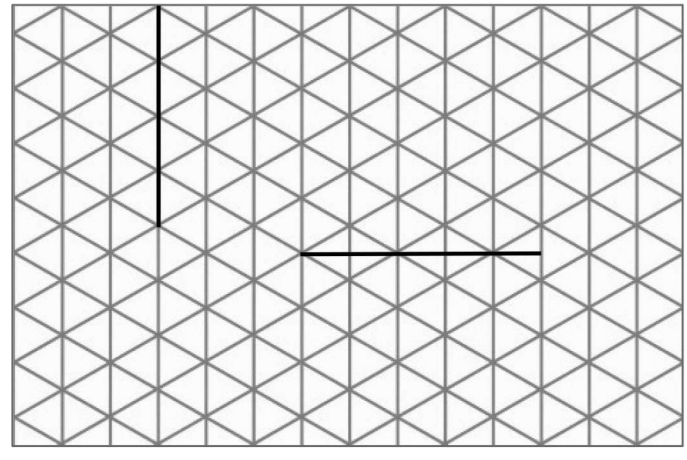




2. How do you know if two lines are perpendicular?

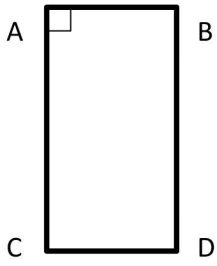
3. In the square and triangular grids below, use the given segments in each grid to draw a line that is perpendicular. Use a straightedge.





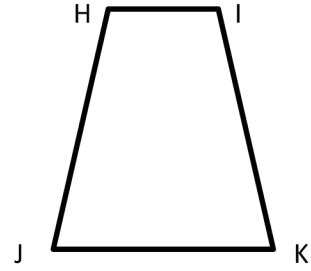
4. Use the right angle template that you created in class to determine which of the following figures have a right angle. Mark each right angle with a small square. For each right angle you find, name the corresponding pair of perpendicular lines. (Problem 4(a) has been started for you.)

a.

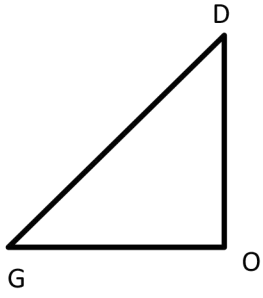


$\overline{AB} \perp \overline{BD}$

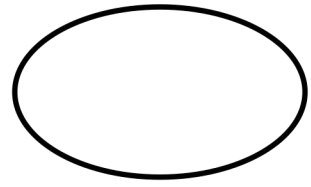
b.



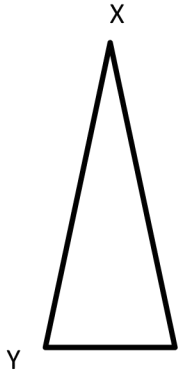
c.



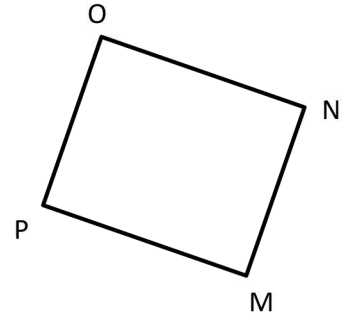
d.



e.

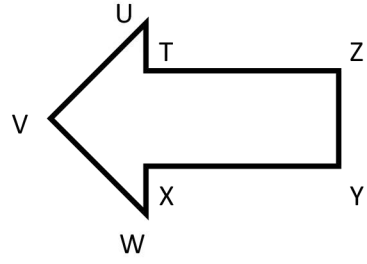


f.

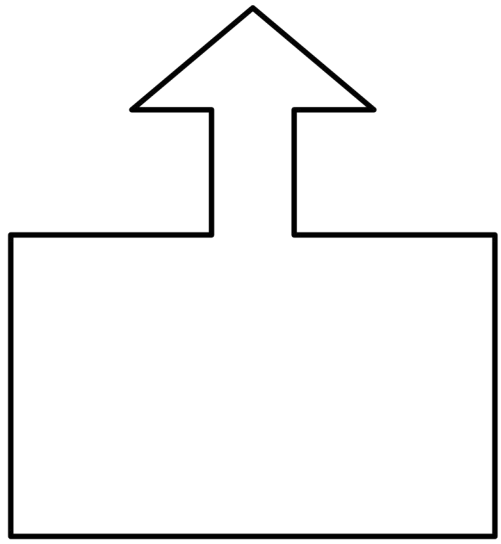


g.

h.



5. Use your right angle template as a guide, and mark each right angle in the following figure with a small square. (Note: A right angle does not have to be inside the figure.) How many pairs of perpendicular sides does this figure have?



6. True or false? Shapes that have no right angles also have no perpendicular segments. Draw some figures to help explain your thinking.

Answer Key

1. Perpendicular lines accurately traced
2. Answers will vary.
3. Perpendicular lines accurately drawn
4. a. Right angles accurately identified and marked; $\overline{AB} \perp \overline{BD}$; $\overline{BD} \perp \overline{DC}$; $\overline{AC} \perp \overline{CD}$
   b. No right angles
   c. Right angle accurately identified and marked; $\overline{DO} \perp \overline{OG}$
   d. No right angles
   e. No right angles
   f. Right angles accurately identified and marked; $\overline{PO} \perp \overline{ON}$; $\overline{ON} \perp \overline{NM}$; $\overline{NM} \perp \overline{MP}$; $\overline{MP} \perp \overline{PO}$
   g. No right angles
   h. Right angles accurately identified and marked; $\overline{UT} \perp \overline{TZ}$; $\overline{TZ} \perp \overline{ZY}$; $\overline{ZY} \perp \overline{YX}$; $\overline{YX} \perp \overline{XW}$
5. Right angles accurately identified and marked; 8 perpendicular pairs
6. True; explanations will vary.