Name:

BECA / Dr. Huson / Geometry 02 Area and volume

3.2 Parallel lines and transversals

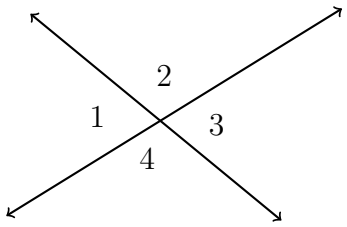
1. Do Now: Identify the true statements

   (a) $\angle 1 \cong \angle 2$

   (b) $\angle 2 \cong \angle 4$

   (c) $m\angle 1 + m\angle 4 = 180°$

   (d) $m\angle 2 + m\angle 3 = 90°$



2. Spicy Do Now: A pyramid with a square base has a volume of 576 cubic inches. Its height is the same as the lengths of the sides of the base. Find the area of its base.

   Given the volume formula $V = \frac{1}{3}(s^2)h$ for a pyramid with a square base ($B = s^2$).

   (a) Write down the variable representing the height

   (b) Write down the variable representing the length of the base's side

   (c) Write an equation relating the two variables in (a) and (b)

   (d) Substitute and solve

$$V = \frac{1}{3}(s^2)h$$

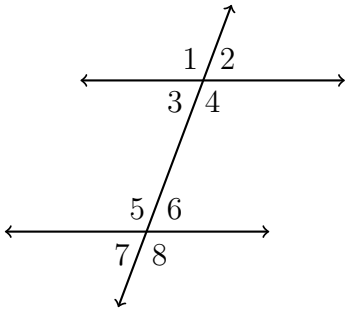
3. Given two parallel lines and a transversal, as shown, with $m\angle 6 = 70°$. Write down the value of each angle measure.

   (a) $m\angle 1 =$ (e) $m\angle 5 =$

   (b) $m\angle 2 =$ (f) $m\angle 6 =$

   (c) $m\angle 3 =$ (g) $m\angle 7 =$

   (d) $m\angle 4 =$ (h) $m\angle 8 =$



4. Label the relationship of each pair: adjacent, vertical, corresponding, alternate interior, same side interior, alternate exterior, or same side exterior

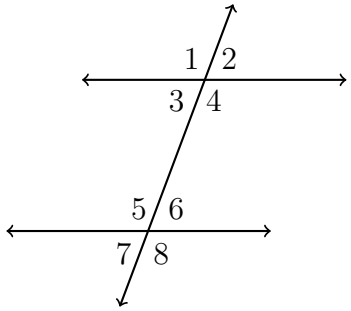
   (a) $\angle 1$,$\angle 4$

   (b) $\angle 3$,$\angle 6$

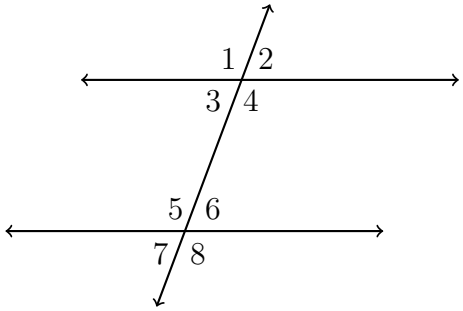
   (c) $\angle 5$,$\angle 3$

   (d) $\angle 6$,$\angle 2$

   (e) $\angle 1$,$\angle 8$



5. Given two parallel lines and a transversal, with $m\angle 4 = 3x$ and $m\angle 5 = x + 70$. Write an equation, then solve for x.



6. Two parallel lines intersect a transversal. Given corresponding angles $m\angle 1 = 4.4x - 63$ and $m\angle 2 = 2.8x + 9$, find the measure of $\angle 1$.