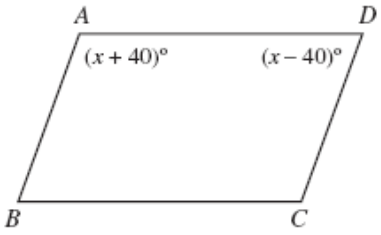
Geometry **Tune-Up #4** Name _____

SHOW WORK Date _____Per.____

1. Find x

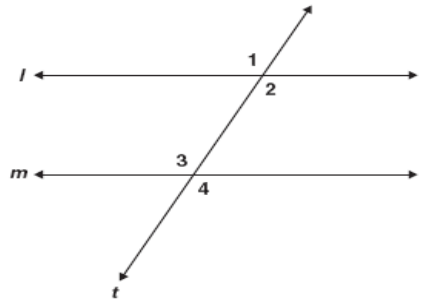
In the figure below, $\overline{AB} \parallel \overline{CD}$.



2. In a regular octagon, the sum of the measures of the exterior angles is _____. A single exterior angle is _____. The sum of the interior angles is _____ and each interior angle is _____.

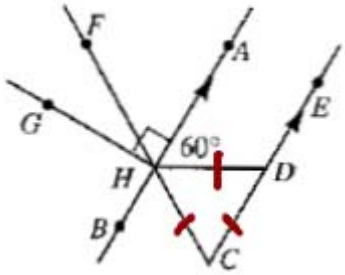
3. The lengths of the sides of a triangle are 2x+5, 3x+10, and x+12. Find all values of x that make the triangle isosceles.

4. In the diagram below, $\angle 1 \cong \angle 4$. Which of the following conclusions does *not* have to be true?



A. $\angle 3$ and $\angle 4$ are supplementary
B. Line *l* is parallel to *m*
C. $\angle 1 \cong \angle 3$
D. $\angle 2 \cong \angle 3$

5. Find the measure of each angle listed below.



$\angle FHD$
$\angle GHB$
$\angle HDE$
$\angle AHG$
$\angle BHC$
$\angle HDC$
$\angle FHG$
$\angle DHC$
$\angle HCD$

6. Which of the following best describes deductive reasoning?

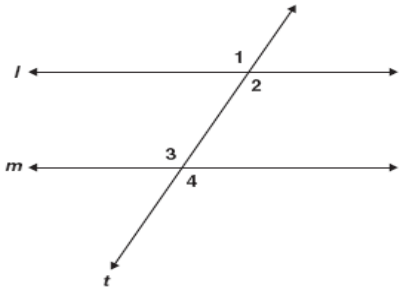
A. using logic to draw conclusions based on accepted statements

B. accepting the meaning of a term without definition

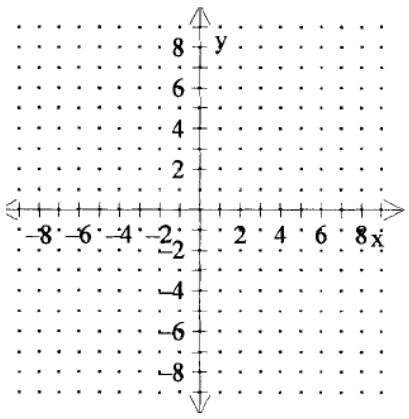
C. defining mathematical terms to correspond with physical objects

D. inferring a general truth by examining a number of specific examples

7. Given: $\angle 1 \cong \angle 4$
Prove: $\angle 2 \cong \angle 3$



1.	$\angle 1 \cong \angle 4$	1. given
2.	$\angle 1 \cong \angle 2$	2.
3.	$\angle 2 \cong \angle 4$	3.
4.	$\angle 3 \cong \angle 4$	4.
5.	$\angle 2 \cong \angle 3$	5.

8. The measure of a supplement of an angle is 35 more than twice the complement of the angle. Find the measures of the angle, its supplement, and its complement.	9. The measures of two angles of a triangle are five and six times as large as the measure of the smallest angle. Find all three angles.	10. Explain the difference between a scalene triangle and an isosceles triangle.
11. Simplify $\frac{13x^2yz^3}{39xyz^5}$	12. Solve for x $3x-7=2(3x-7)$	13. Solve by factoring $z^2-6z+9=0$
14. Simplify $\sqrt{99}$	15. Graph $3x-2y=16$ 	16. Solve for x and y $19=5x+2y$ $1=3x-4y$