# Geometry Week 5 HW#1, due Friday 9/9
## Using Visual, Inductive, and Deductive Reasoning

1. Surgeons, engineers, carpenters, plumbers, electricians, and furniture movers all rely on trained experience with visual thinking. Describe how one of these tradespeople or someone in another occupation uses visual thinking in his or her work.

2. Midway through a 2000-meter race, a photo is taken of five runners. It shows Meg 20 meters behind Edith. Edith is 50 meters ahead of Wanda, who is 20 meters behind Olivia. Olivia is 40 meters behind Nadine. Who is ahead? In your diagram, use *M* for Meg, *E* for Edith, and so on.

3. In geometry you will use visual thinking all the time. In Exercises 15 and 16 you will be asked to locate and recognize congruent geometric figures even if they are in different positions due to translations (slides), rotations (turns), or reflections (flips).

   If $\triangle CYN$ were reflected across the *y*-axis, to what location would points *C*, *N*, and *Y* be relocated?
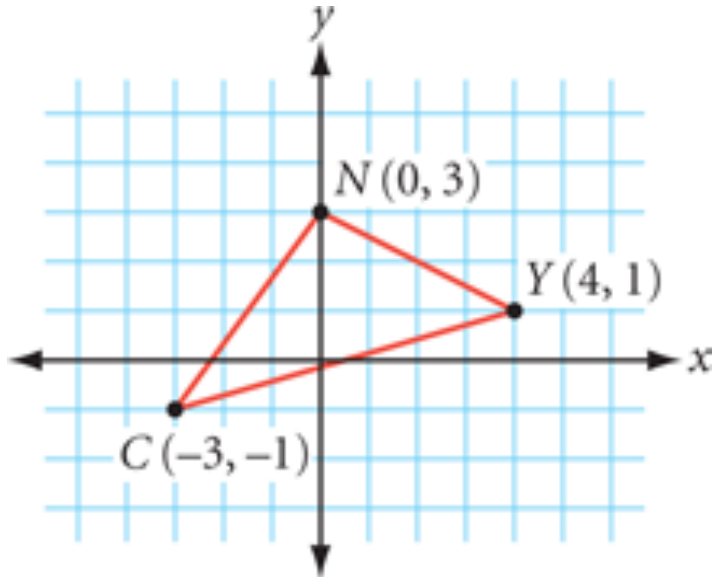


For Exercises 4-6, use inductive reasoning to find the missing terms in the sequence.

4. 4. 1, 10, 100, 1000, _?_, _?_

5. 32, 30, 26, 20, 12, 2, _?_, _?_

6.



7. 7. When you use _____ reasoning, you are generalizing (making a conjecture) from careful observation that something is probably true. When you use _____ reasoning, you are establishing that if a set of properties is accepted as true, something else must be true.

8. 8. $\angle A$ and $\angle B$ are complementary. $m\angle A = 25°$. What is $m\angle B$? What type(s) of reasoning do you use (visual, inductive or deductive), when solving this problem?