

Name:

Math Olympiad Exploring! – Problem Due: – March 4, 2004

## Connect the Dots, but Don't Lift Your Pen!

Here are some pictures with dots and lines. Which of these pictures can you draw without picking up your pencil?

Let's try to figure out **why** you can draw some but not others. For each picture, put a circle around the dots where you started drawing with your pencil and ended drawing with your pencil.

Now for each dot, count how many lines go into the dot. Write that number next to the dot. Do you see a pattern? Try to make a guess about when you can draw the picture.

Now draw a **NEW** picture that satisfies the guess you made. See if you can draw it without picking up your pencil!