More curves and special points

1. Think of a car going along a level road. If you are in the car you travel along in a straight line. But if you were an insect sitting on the tyre, sometimes you would be near the road and sometimes higher up. Can you draw the way an insect sitting at the very outer edge of the tyre would move? Try using a ruler for the road and a coin for the car wheel.

2. If instead of a car we have a train wheel, the insect could sit on the flange (the little bit of the wheel that sticks out to stop the train running off the tracks) and sometimes it would be below the rail. Can you draw the way this insect will move? Does it always move forwards?

3. Do you think either of the curves you have drawn have special points?

4. Make up a rule for drawing a curve of your own. Does it have special points?