

Painted tires

Once while riding a bike along a path I crossed a 6 inch wide strip of wet paint. After riding a short time in a straight line, I looked back at the marks left on the pavement by the paint on my tires. What did I see?

Conjecture 1: The marks are one tire circumference apart.

Conjecture 2: Two sets of marks appear. One from the front and one from the back.

Does it depend on the distance between the wheels?

Do the tires make separate marks? What if two people came by riding on unicycles traveling the same path about three minutes apart.

Extensions:

What if I don't ride in a straight line?

Arm Chair

A heavy chair needs to be moved. But, the only way is to pivot it 90 degrees about any of its corners. Can it be moved so that it is exactly besides its starting position and facing the same way?

Record your conjectures as you problem solve.

