# Circle, tangent line, and secant line problems.

**1.** Find the point(s) of intersection of the line passing through the point $(0,-625/24)$ with slope $7/24$ and the circle $x^2+y^2=625$. Decide whether this line is a tangent line, secant line, or neither.

**2.** Find the point(s) of intersection of the line passing through the point $(0,9/4)$ and parallel to the line $y=\frac{3}{4}x+7$ and the circle $x^2+(y-4)^2=25$. Decide whether this line is a tangent line, secant line, or neither.

**3.** Find the point(s) of intersection of the line passing through the point $(14,16)$ and parallel to the line $13y-2x=27$ and the circle $(x+3)^2+(y-1)^2=169$. Decide whether this line is a tangent line, secant line, or neither.

**4.** Find the point(s) of intersection of the line passing through the point $(4,3)$ and perpendicular to the line $5y+4x=-15$ and the circle $(x-1)^2+(y+1)^2=25$. Decide whether this line is a tangent line, secant line, or neither.