Present neatly ~~on separate paper~~. Justify for full credit. No Calculators.

Name _____   Score _____   ~10 minutes

1.

Find the x-coordinate of the point on the graph of
$y = \sqrt{x}$ where the tangent line is parallel to the secant
line that cuts the curve at $x = 1$ and $x = 4$.   [5 points]

2.

Find k if the curve $y = x^2 + k$ is tangent to the line
$y = 2x$.   [5 points]