Name_____ No calculators. Present neatly. Score_____.

1)

Find an equation of the line through the point $(3, 5)$ that cuts
off the least area from the first quadrant.

2) Discuss completely. Your analysis should conclude with a sketch that is consistent with your discussion.

$$y = \frac{x^2}{x^2 + 3}$$

Your work:

Name_____ No calculators. Present neatly. Score_____.

1)

What is the shortest possible length of the line segment that
is cut off by the first quadrant and is tangent to the curve
$y = 3/x$ at some point?

2) Discuss completely. Your analysis should conclude with a sketch that is consistent with your discussion.

$$y = \frac{x^3}{x - 2}$$

Your work: