

- [illegible]

The graph shows a Cartesian coordinate system with a horizontal x-axis and a vertical y-axis. The origin is labeled O. A straight line, labeled $y = \frac{2x-32}{3}$, is drawn. A curve, labeled $y = 2x - 8x^{\frac{1}{2}}$, is also shown. The line is tangent to the curve at a point labeled A. The area between the line and the curve, from point A to point B, is shaded. Point B is the other intersection point of the line and the curve. The line has a positive slope and a negative y-intercept. The curve starts at the origin, increases to a maximum, and then decreases, eventually approaching the x-axis.

Find the area of the shaded region between the curve and the line. [5]

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