AP Calculus AB Name_____

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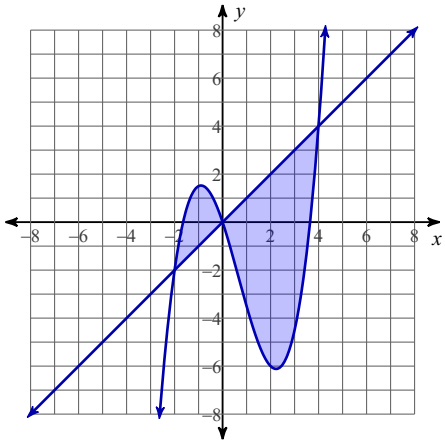
Area Between Curves: dy and Beyond

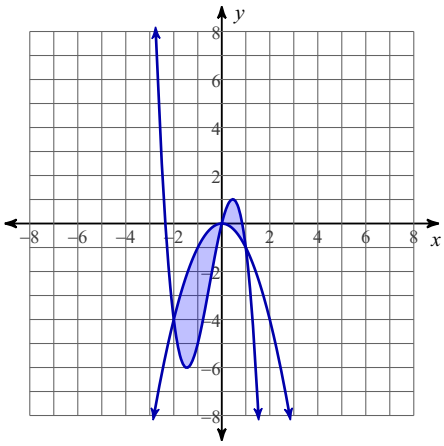
Date_____

Write the definite integral(s) needed to compute the shaded areas. Then, integrate to find the area. Check your answer with a calculator.

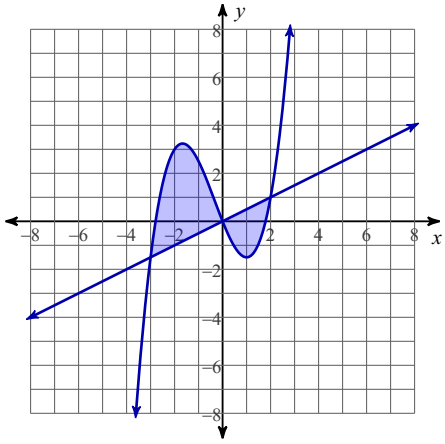
1) $y = \frac{x^3}{2} - x^2 - 3x,\ \ y = x$



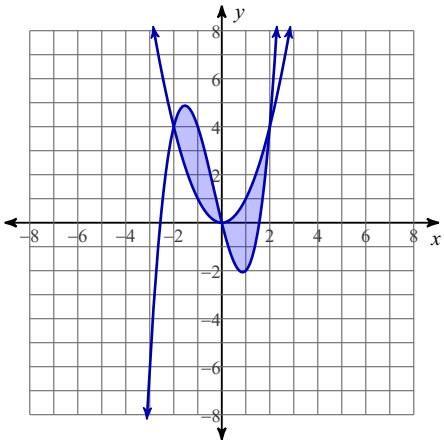
2) $y = -2x^3 - 3x^2 + 4x,\ \ y = -x^2$



3) $y = \frac{x^3}{2} + \frac{x^2}{2} - \frac{5x}{2},\ \ y = \frac{x}{2}$



4) $y = x^3 + x^2 - 4x,\ \ y = x^2$



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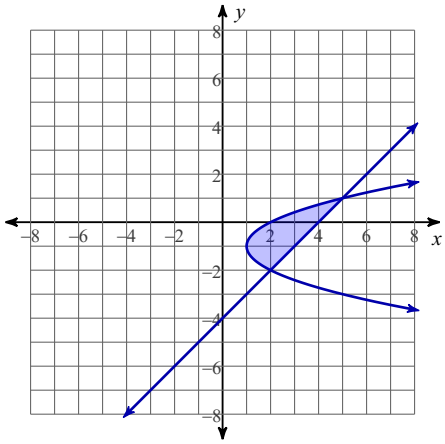
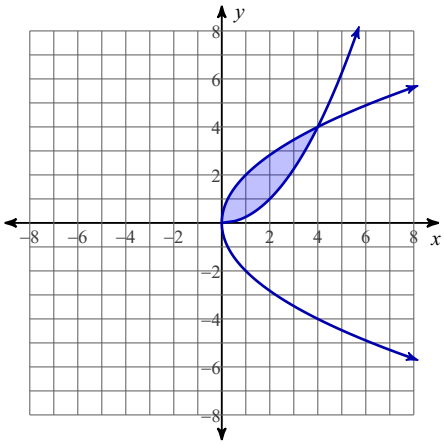
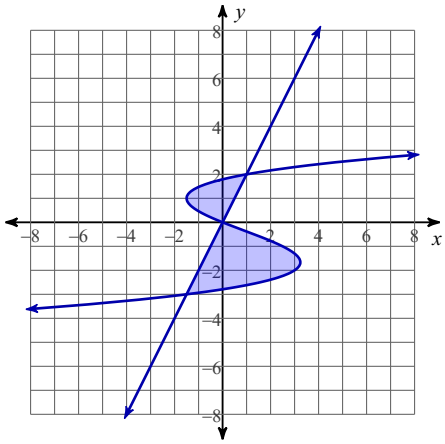
5) $x = y^2 + 2y + 2,\ x = y + 4$



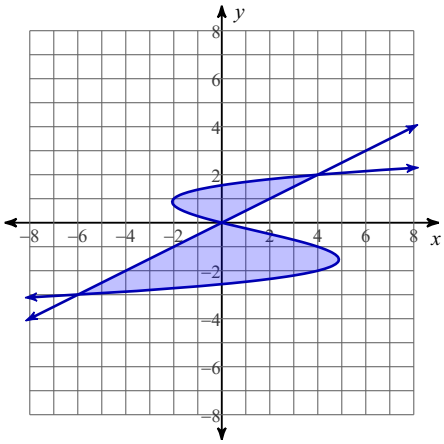
6) $x = 2\sqrt{y},\ x = \dfrac{y^2}{4}$



7) $x = \dfrac{y^3}{2} + \dfrac{y^2}{2} - \dfrac{5y}{2},\ x = \dfrac{y}{2}$



8) $x = y^3 + y^2 - 4y,\ x = 2y$



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