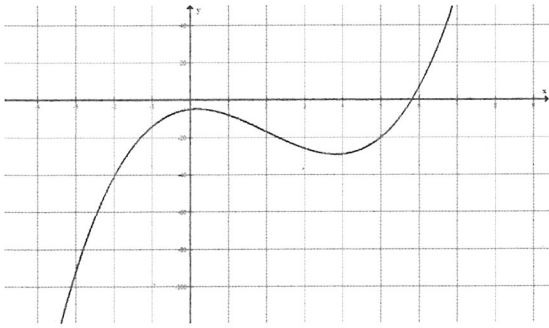
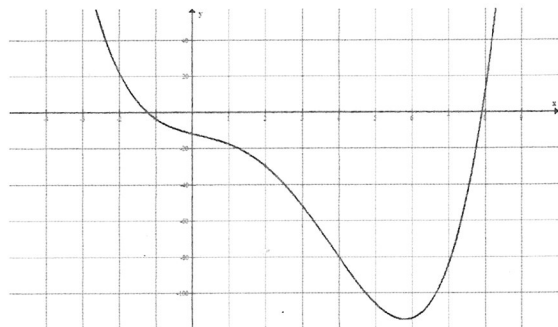
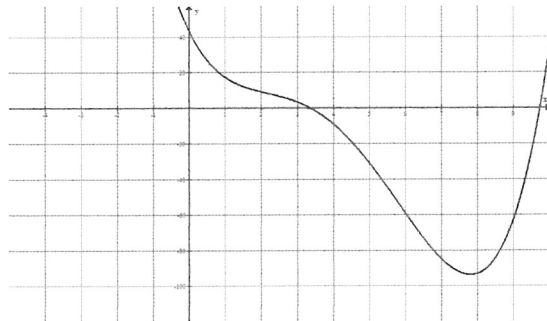
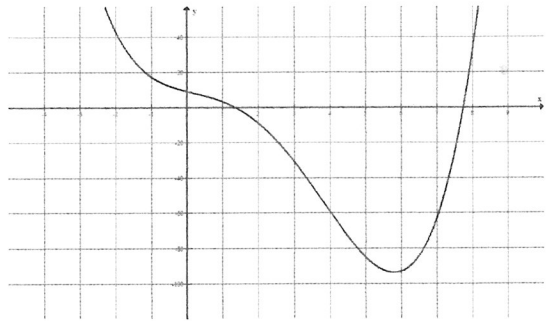


Calculus Study Guide: section 5.3

Given the function $g(x)$ below:



Put a check next to each of the functions below that could be an antiderivative $G(x)$. (There may be more than one answer.)



Use the Fundamental Theorem of Calculus to evaluate:

$$\int_0^{\pi/3} \sec x \tan x \, dx = \sec x \Big|_0^{\pi/3} = \sec \frac{\pi}{3} - \sec 0$$
$$= 2 - 1 = 1$$

answer = _____

Find the area between $y = e^{2x}$ and the x-axis on $[0, 1]$.

$$\int e^{2x} \, dx = \frac{1}{2} e^{2x} \Big|_0^1 = \frac{1}{2} e^2 - \frac{1}{2} e^0 = \frac{1}{2} e^2 - \frac{1}{2}$$

answer: _____

t	0	1	4	5	7
v(t)	3	4	7	8	11

In the table above are data from a moving object. The time (in secs) is given in the first row, and the object's speed (in ft/s) is given in the second row. You want to estimate the distance that the object travels in the 7 minutes, using a right-endpoint approximation with 4 rectangles. What is your estimate of the distance travelled (in feet)?

$$1(4) + 3(7) + 1(8) + 2(11)$$
$$4 + 21 + 8 + 22 = 55$$

answer: 55 ft