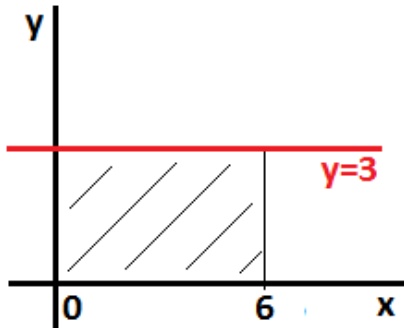


§5.4 Area between Curves

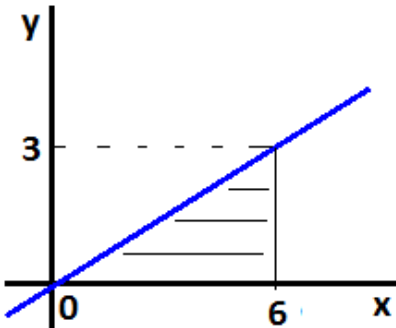
Part (a) & (b): Write and evaluate an integral for the area under the curve

Part (c): Write and evaluate an integral for the area between the curves.

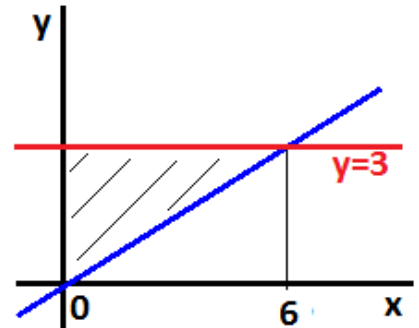
1)



(a) _____

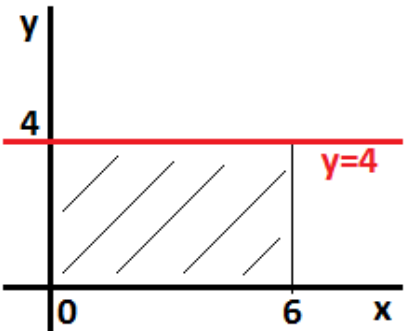


(b) _____

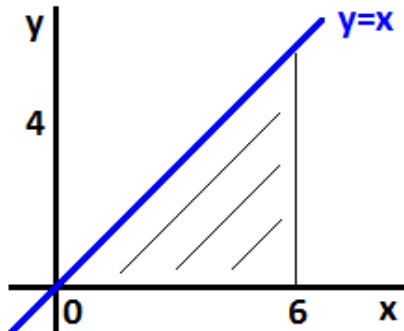


(c) _____

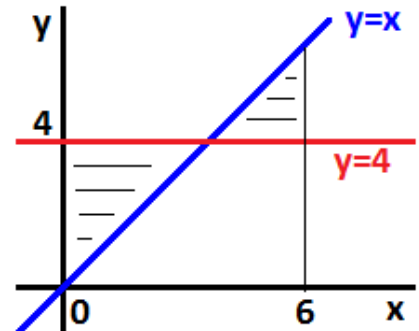
2)



(a) _____



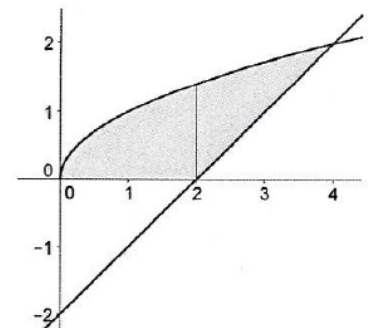
(b) _____



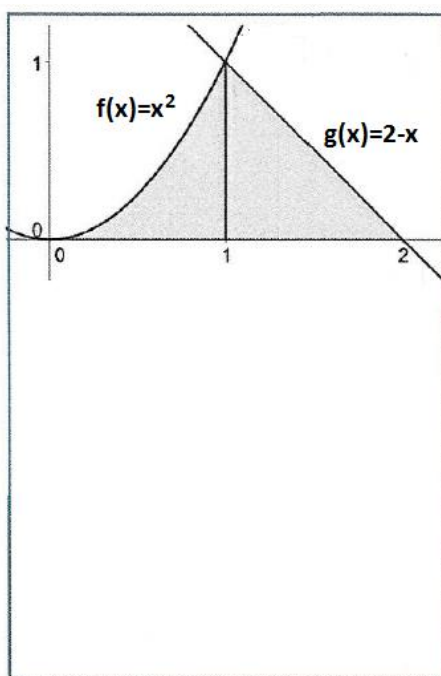
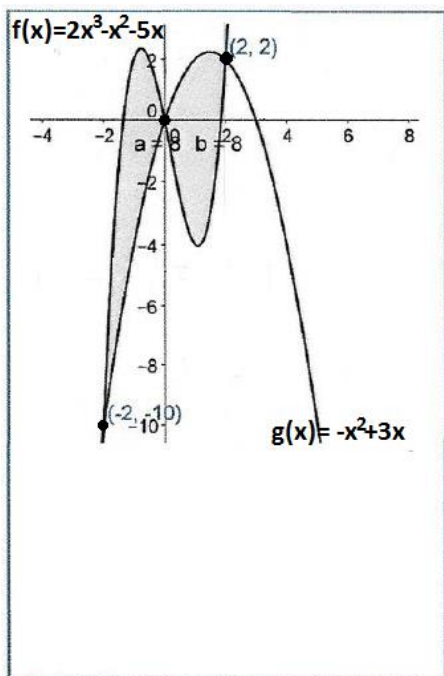
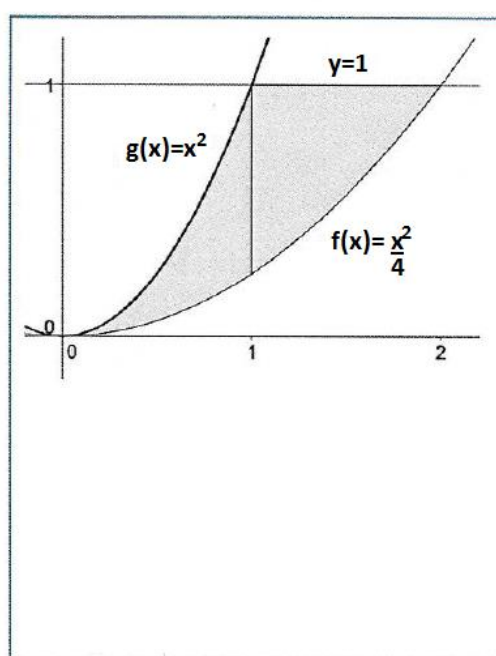
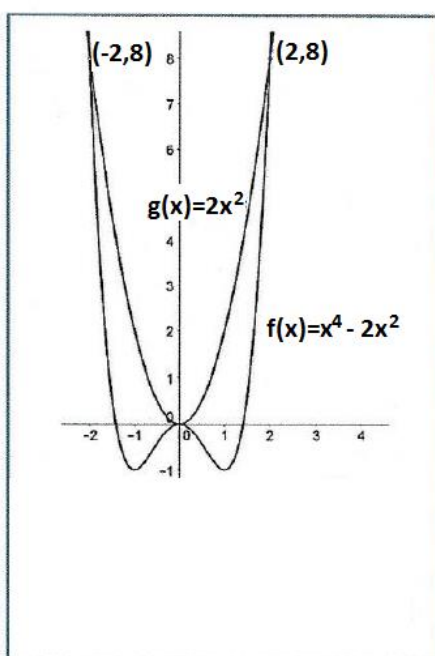
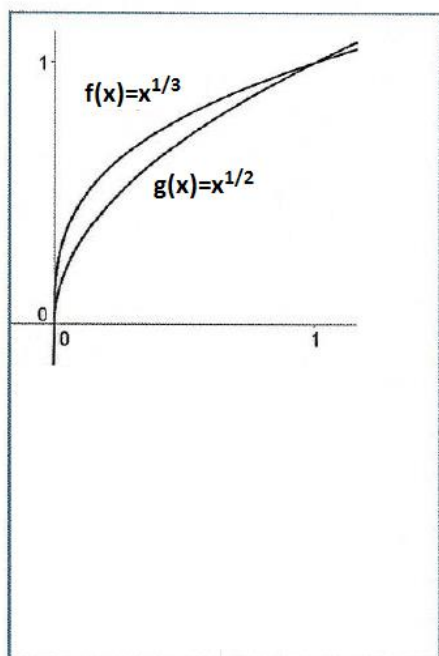
(c) _____

Example #5: Integrating with respect to y .

Find the area of the region R in the first quadrant that is bounded above by $y = \sqrt{x}$ and below by the x -axis and the line $y = x - 2$.



Practice: Set up at least two different definite integrals to find the area of each enclosed region.



Find the area bounded by $y = e^{-x}$ and $y = 4(x - x^2)$.

Find the area bounded by $y = \sin(x) + 2$ and $y = 0.5$ for $6 \leq x \leq 10$.