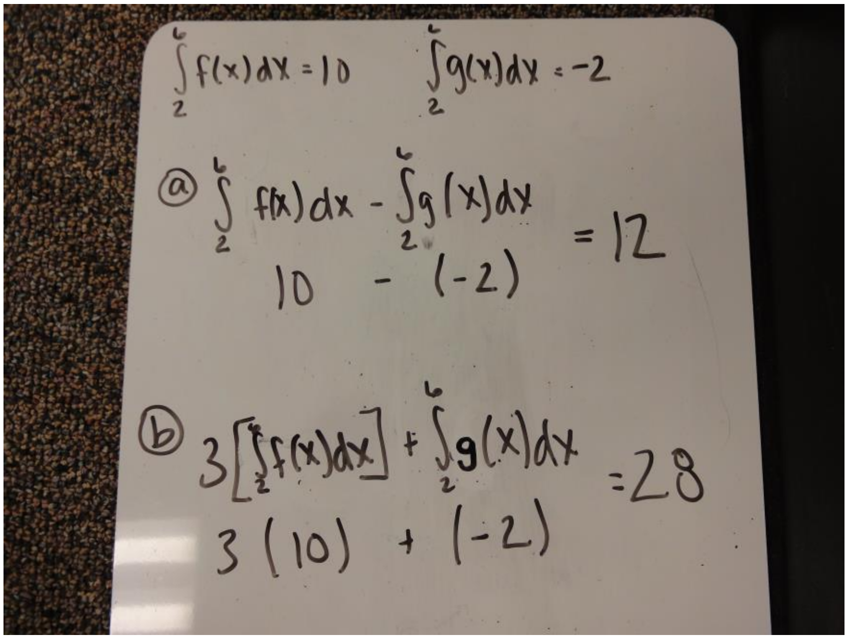
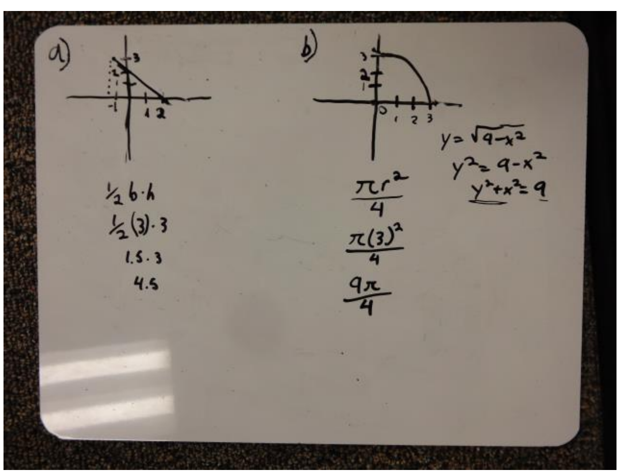
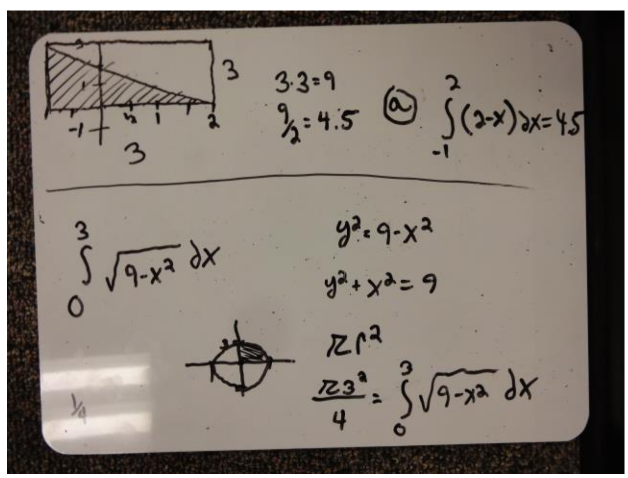
Definite Integrals (again)

A problem using the basic properties:

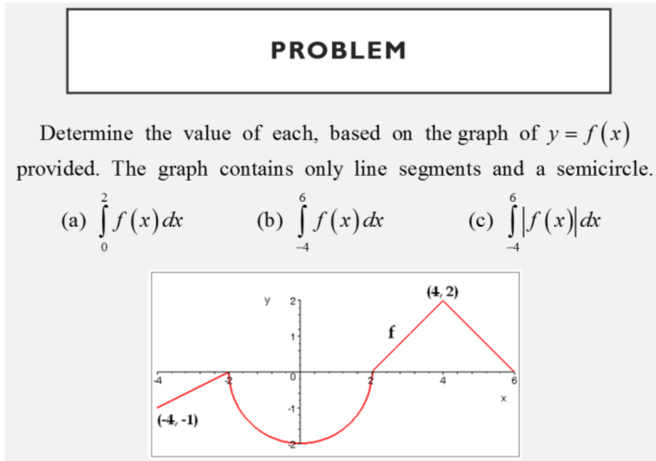


Recognizing that some definite integrals represent areas of <u>well-known</u> geometric figures…..
Notice that $x^2 + y^2 = 9$ represents a circle at the origin with radius 3.





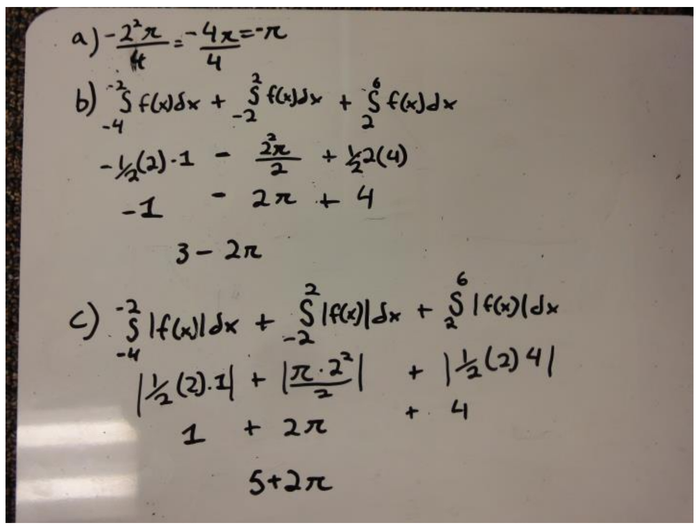
(over)



PROBLEM

Determine the value of each, based on the graph of $y = f(x)$ provided. The graph contains only line segments and a semicircle.

(a) $\int_{0}^{2} f(x)\,dx$ (b) $\int_{-4}^{6} f(x)\,dx$ (c) $\int_{-4}^{6} |f(x)|\,dx$



Below is a nice little device you can use to solve these problems: