

CORRESPONDING AUTHOR _____

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Group Work 22

1. Find the general antiderivative of each of the following.

(a) $f(x) = x^3$

(b) $f(x) = x^{-3}$

(c) $f(x) = x^{-1}$

2. Compute.

(a) $\int 2 \cos(x) \, dx$

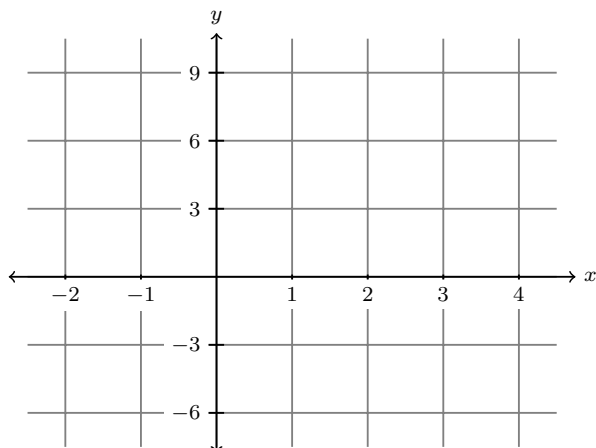
(b) $\int \cos(2x) \, dx$

(c) $\int \left(17 \sec^2(x) + \frac{1}{1+x^2} \right) dx$

3. Consider the function $f(x) = x^3 - 6x$.

(a) Graph $f(x)$ over the interval $[0, 3]$.

Hint: start with $(3, f(3))$ and the zeros of f .



(b) Find the (net) area between $f(x)$ and the x -axis over $[0, 3]$.

Hint: do this by computing $\int_0^3 (x^3 - 6x) dx$ using the FTC.