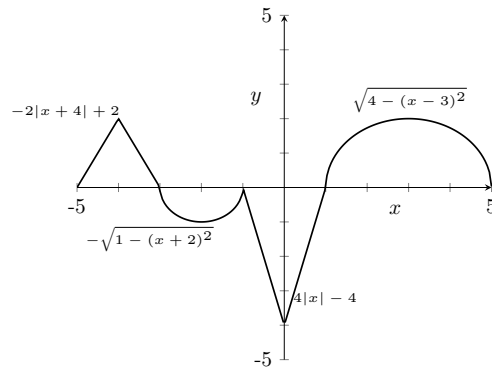
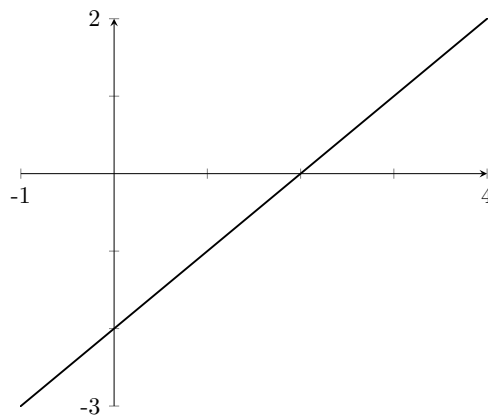


Due by 20 November for timely completion credit

1. Consider the function f whose graph is comprised of triangles and semicircles, drawn below. Compute $\int_{-5}^5 f(x)dx$ using the fact that the area of a triangle is $\frac{1}{2}(\text{base})(\text{height})$ and the area of a (full) circle is $\pi(\text{radius})^2$.



2. Calculate the integral $\int_0^{\frac{\pi}{2}} \sin(x)dx$.
3. Consider the function $F(x) = \int_0^x t - 2dt$.
- (a) The graph of $y = t - 2$ is shown. Shade in the graph what area corresponds to the number $F(3)$:



- (b) Compute $\frac{d}{dx}F(x)$.