

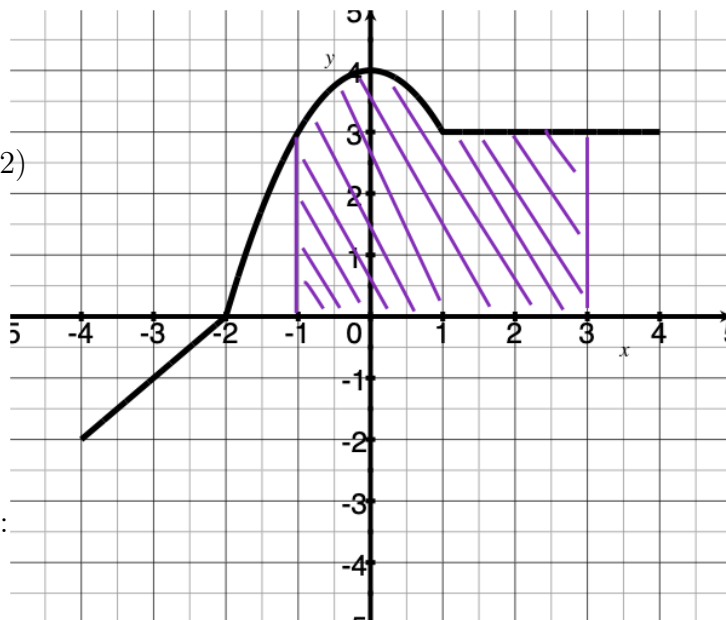
# Quiz 1

Show *all* your work. Reasonable supporting work must be shown for any partial credit.

1. Consider the piece-wise defined graph  $f(x)$  consisting of a parabola and straight lines.

(a) [1] Estimate  $f(1)$ .

(b) [2] (Activity: DefiniteIntegrals#2)  
Describe the area shaded as a definite integral involving  $f(x)$ .



(c) [2] Find the formula for the function  $f$  in the indicated form:

$$f(x) = \begin{cases} & \text{if } -4 \leq x \leq -2 \\ & \text{if } -2 < x \leq 1 \\ & \text{if } 1 < x \leq 4 \end{cases}$$

(d) [3] (WrittenHW§5.2 #36)

Evaluate  $\int_{-4}^0 f(x) dx$  exactly.

2. [2] (WebHW5-3 #5) Let  $g(t)$  be such that we know  $\int_0^6 g(t) dt = 24$ . Find  $\int_0^6 g(t) - 3 dt$