

Evaluate the following integrals by sketching the appropriate region.

1. $\int_0^4 2x \, dx$

4. $\int_{-1}^1 x^3 \, dx$

2. $\int_{-1}^0 2x \, dx$

5. $\int_0^\pi \cos(x) \, dx$

3. $\int_{-1}^4 2x \, dx$

6. $\int_2^0 x + 2 \, dx$