

AP Calculus AB
Unit 6: Integration & Accumulation of Change
6.7 Worksheet

Name: _____

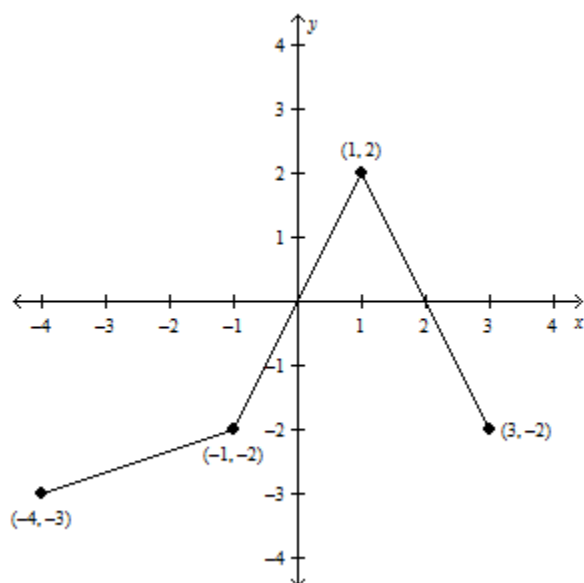
Date: _____ Period: _____

Directions: Show all work for full credit. DO NOT use a calculator for these problems, unless otherwise indicated.

For exercises 1 – 6, find the value of the definite integral. Show your algebraic work.

1. $\int_{-1}^1 (t^2 - t) dt$	2. $\int_1^2 \left(\frac{3}{x^2} - 1 \right) dx$
3. $\int_1^4 \frac{u-2}{\sqrt{u}} du$	4. $\int_{-2}^{-1} \left(x - \frac{1}{x^2} \right) dx$
5. $\int_0^\pi (1 + \sin x) dx$	6. $\int_1^3 (3x^2 + 5x - 4) dx$

Pictured to the right is the graph of a function f . In exercises 7 – 12, find the values of each of the following definite integrals.



<p>7. $\int_{-4}^2 f(x)dx$</p>	<p>8. $\int_0^3 f(x)dx$</p>	<p>9. $\int_{-1}^1 f(x)dx$</p>
<p>10. $\int_{-4}^0 f'(x)dx$</p>	<p>11. $\int_{-1}^1 f'(x)dx$</p>	<p>12. $\int_1^2 f'(x)dx$</p>