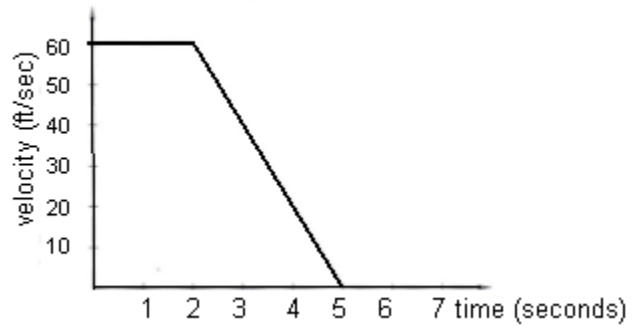
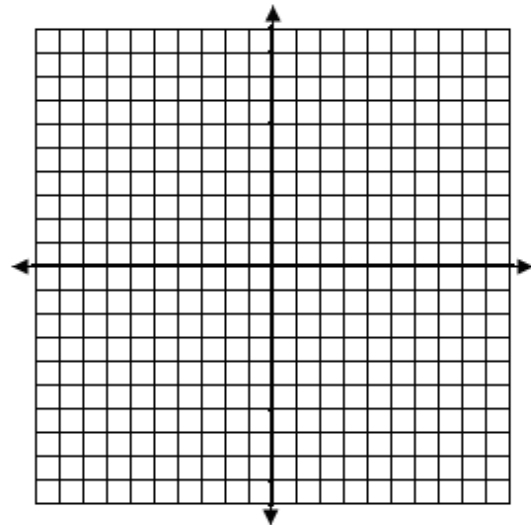


1. Find the distance traveled by a stunt driver being filmed for a chase scene. (Do not estimate!)

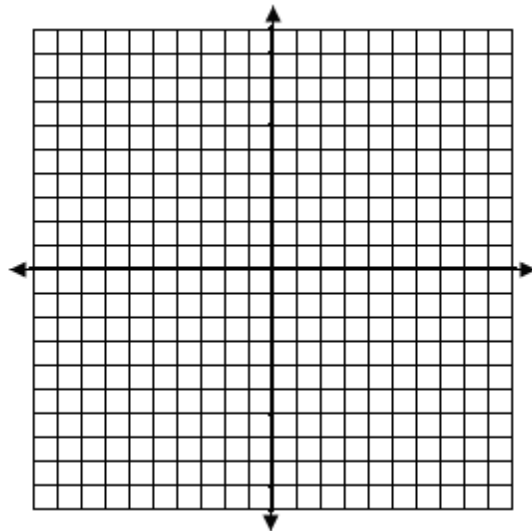


2. Given the velocity function $f(x) = 1.5x^2$ in the interval $0 \leq x \leq 9$. Use Riemann Sums to estimate $\sum_{i=1}^3 f(z_i)\Delta x$ where z_i is the left endpoint of the i^{th} subinterval. (Hint: Sketch a graph of the situation).



3. $\int_{-1}^4 (3)dx + \int_4^9 (-x + 7)dx$

- Sketch a picture that represents the given definite integral.
- Evaluate the integral.



Evaluate the indefinite integral.

$$4. \int (12x^5 - 6x) dx$$

$$5. \int (20x^3 + 4x) dx$$

$$6. \int (12x^5 - 4x) dx$$

$$7. \int (24x^5 + 1) dx$$

Evaluate the definite integral.

$$8. \int_1^3 (2x^2 - 12x + 13) dx$$

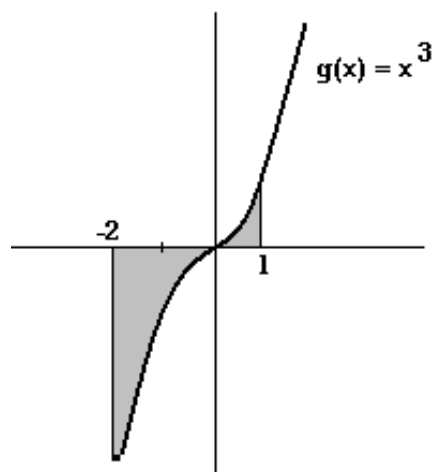
$$9. \int_0^3 (-x^3 + 3x^2 - 2) dx$$

$$10. \int_{-1}^0 (x^5 - 4x^3 + 4x + 4) dx$$

$$11. \int_{-3}^0 4x^{\frac{1}{3}} dx$$

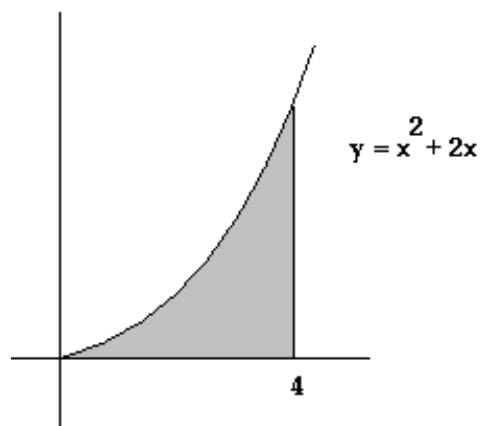
12. Consider the function graphed at the right.

- Express the area of the shaded region using integral notation.
- Use the Fundamental Theorem of Calculus to evaluate the integral in part *a*.



13. Consider the function graphed at the right.

- Express the area of the shaded region using integral notation.
- Evaluate the integral.



14. Find the area of the region bounded by $f(x) = -x^2 + 8$, $f(x) = x + 2$, and the line $x = 3$. **Show integral setup!**

