

Anti-Derivatives and Indefinite Integrals - Key

In problems 1-10, find the indefinite integral

1. $\frac{1}{4}x^4 - \frac{7}{3}x^3 + \frac{3}{2}x^2 - 4x + C$	2. $\frac{1}{4}x^4 - \frac{7}{3}x^3 + \frac{3}{2}x^2 - 4x + C$
3. $\frac{-1}{x} - 2x + C$	4. $\frac{-1}{x} - \frac{1}{x^4} + C$
5. $\frac{8}{3}x^{3/2} + 3x + C$	6. $\frac{3}{4}x^{4/3} - \frac{5}{3}x^{6/5} + C$
7. $\frac{5}{3}x^{3/5} + x^2 + x + C$	8. $\frac{1}{3}x^3 + x^2 - 15x + C$
9. $\frac{8}{3}x^3 + \frac{2}{x} + C$	10. $\frac{4}{15}x^{15/4} - \frac{16}{7}x^{7/4} + C$

In problems 11-12, Find the particular solution that satisfies the differential equation and the initial condition

11. $f(x) = \frac{2}{5}x^5 - \frac{1}{2}x^2 - \frac{39}{5}$	12. $f(x) = \frac{1}{3}x^3 - \frac{5}{2}x^2 + 2x + \frac{61}{6}$
---	--