1. $\int 3x^2 - \frac{1}{x} + e^x - 7\, dx$

2. $\int \frac{\sqrt{x}}{x^3} + \frac{6+2x}{x^2} - 50x^{99}\, dx$

3. $\int\, dx$

4. $\int \frac{e^{5x}}{e^{2x}} - 8x^{7/3}\, dx$

5. $\int (x^2 - 5x + 6)^9 (2x - 5)\, dx$

6. $\int e^{6x-2}\, dx$

7. $\int \frac{x+3}{x^2+6x-7}\, dx$

8. $\int \frac{e^{1/x}}{x^2}\, dx$

9. $\int \frac{\ln(x)}{x}\, dx$

10. $\int e^{e^x} e^x\, dx$

Suppose a company's marginal profit is approximated by $MP(q) = 30q - 5$ and we know that they have a break even point when $q = 10$. Approximate their profit when $q = 50$.

Find the antiderivative $f(x)$ of $g(x) = \dfrac{500}{\sqrt{2x+1}} + 6x^2 + 3$ such that $f(4) = 10$.