

## Integration with substitution

Do each of the following integrals by  $u$ -substitution.

1.  $\int \cos(3x - 7) dx$

12.  $\int x^2(3x^3 - 4)^8 dx$

2.  $\int e^{2x-1} dx$

13.  $\int x^5(4x^6 - 7)^5 dx$

3.  $\int \sin(4x - 11) dx$

14.  $\int \sqrt{x}(8 - x^{3/2})^3 dx$

4.  $\int \sec^2(7 - 8x) dx$

15.  $\int xe^{3x^2} dx$

5.  $\int \frac{1}{7x - 8} dx$

16.  $\int \frac{x}{1 + x^2} dx$

6.  $\int \frac{2}{9 - 71x} dx$

17.  $\int \frac{x^2}{2 + 3x^3} dx$

7.  $\int \frac{1}{1 + (2x - 1)^2} dx$

18.  $\int x^2 \cos(4x^3 + 5) dx$

8.  $\int (18x - 7)^5 dx$

19.  $\int x^5 \sin(1 - 8x^6) dx$

9.  $\int (4x + 6)^8 dx$

20.  $\int e^{3+2\sin x} \cos x dx$

10.  $\int (6 - 10x)^3 dx$

21.  $\int \cos(2 + \cos x) \sin x dx$

11.  $\int (7 - 8x)^{1/2} dx$

22.  $\int \sec^2(8 + \sin x) \cos x dx$