$$\int_1^e \frac{-5\cos(-4+\ln x)}{x}dx \text{ and } u = -4 + \ln x \text{ then}$$

a) $5\int_{-4}^{-3} \sin(u)du$ b) $-5\int_{-4}^{-3} \sin(u)du$ c) $-5\int_{-3}^{-4} \cos(u)du$

d) $-5\int_{-4}^{-3} \cos(u)du$ e) $5\int_{-4}^{-3} \cos(u)du$

Integrate each of the following:

2. $\int 20x\sin(5x^2 - 3)dx$ 3. $\int 16x^3 \sec^2(4x^4 - 2)dx$

4. $\int 6e^{3x} \cos(e^{3x} - 5)dx$ 5. $\int -36x^3 \sec(3x^4 + 3)\tan(3x^4 + 3)dx$

Evaluate the integrals

2. $\int (4x-3)^9 dx$

3. $\int \cos(2x)\sin^5(2x)dx$

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

5. $\int \dfrac{x^2+1}{\sqrt{x^3+3x}}dx$

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