

PRINTABLE VERSION

Quiz 26

Question 1

Calculate: $\int \frac{1}{9(2+x)^2} dx$

a) ☐ $-\frac{1}{54(2+x)^2} + C$

b) ☐ $\frac{1}{18(2+x)^2} + C$

c) ☐ $-\frac{1}{18+9x} + C$

d) ☐ $-\frac{6}{9(2+x)^3} + C$

e) ☐ $-\frac{1}{6+3x} + C$

Question 2

Calculate: $\int \frac{5x}{(x^2+5)^2} dx$

a) ☐ $-\frac{5}{x^2+5} + C$

b) ☐ $-\frac{5}{4x^2+20} + C$

c) ☐ $-\frac{5}{4(x^2+5)^2} + C$

d) ☐ $-\frac{5}{2x^2+10} + C$

e) ☐ $-\frac{1}{6(x^2+5)^3} + C$

Question 3

Calculate: $\int 3x^2 \sqrt[4]{x^3+2} dx$

a) ☐ $\frac{4(x^3+2)^{9/4}}{3} + C$

b) ☐ $\frac{4(x^3+2)^{7/4}}{7} + C$

c) ☐ $\frac{12(x^3+2)^{5/4}}{5} + C$

d) ☐ $\frac{4(x^3+2)^{5/4}}{5} + C$

e) ☐ $\frac{12(x^3+2)^{7/4}}{7} + C$

Question 4

Calculate: $\int \frac{10x+35}{\sqrt{x^2+7x-3}} dx$

a) ☐ $-10 \sqrt{x^2 + 7x - 3} + C$

b) ☐ $5 \sqrt{x^2 + 7x - 3} + C$

c) ☐ $10 \sqrt{x^2 + 7x - 3} + C$

d) ☐ $-2 \sqrt{x^2 + 7x - 3} + C$

e) ☐ $2 \sqrt{x^2 + 7x - 3} + C$

Question 5

Calculate: $\int_{-1}^0 6x^2(2x^3 + 3)^2 dx$

a) ☐ $\frac{52}{3}$

b) ☐ $\frac{26}{3}$

c) ☐ $\frac{19}{3}$

d) ☐ $\frac{13}{6}$

e) ☐ $\frac{13}{3}$

Question 6

Calculate: $\int_0^a 10x\sqrt{a^2 - x^2} dx$

a) ☐ $10 a^2$

b) ☐ $\frac{10 a^3}{3}$

c) ☐ 0

d) ☐ $10 a^3$

e) ☐ $\frac{10 a^2}{3}$

Question 7

Calculate: $\int \cos(2x + 3) dx$

a) ☐ $-\sin(2x + 3) + C$

b) ☐ $\frac{1}{2} \sin(2x + 3) + C$

c) ☐ $-\frac{1}{2} \sin(2x + 3) + C$

d) ☐ $2 \sin(2x + 3) + C$

e) ☐ $-2 \sin(2x + 3) + C$

Question 8

Calculate: $\int \sec(2x + 4) \tan(2x + 4) dx$

a) ☐ $\frac{1}{2} \sec(2x + 4) \tan(2x + 4) + C$

- b) ☐ $\frac{1}{2} \sec(2x + 4) + C$
- c) ☐ $\frac{1}{2} \tan(2x + 4) + C$
- d) ☐ $2 \tan(2x + 4) + C$
- e) ☐ $2 \sec(2x + 4) + C$

Question 9

Calculate: $\int \sin^3(x) \cos(x) dx$

- a) ☐ $-\frac{1}{4} \sin^4(x) + C$
- b) ☐ $\frac{1}{3} \sin^4(x) + C$
- c) ☐ $\frac{1}{4} \sin^4(x) + C$
- d) ☐ $-\frac{1}{3} \cos^4(x) + C$
- e) ☐ $-\frac{1}{4} \cos^4(x) + C$

Question 10

Calculate: $\int \frac{x}{3x^2 + 2} dx$

- a) ☐ $\frac{1}{6} \ln|3x^2 + 2| + C$

- b) ☐ $-\frac{x}{(3x^2 + 2)^2} + C$
- c) ☐ $\frac{3}{2} \ln|3x^2 + 2| + C$
- d) ☐ $\frac{1}{3} \ln|3x^2 + 2| + C$
- e) ☐ $-\frac{x}{6(3x^2 + 2)^2} + C$

Question 11

Calculate: $\int \frac{e^x}{\sqrt{1 - 25e^{2x}}} dx$

- a) ☐ $\frac{1}{5} \arctan(5e^x) + C$
- b) ☐ $5 \arctan(5e^x) + C$
- c) ☐ $\frac{1}{5} \arcsin(5e^x) + C$
- d) ☐ $5 \arcsin(5e^x) + C$
- e) ☐ $\frac{1}{10} \arcsin(5e^x) + C$