Quiz No.5

student:

Problem 1: Evaluate the indefinite integral

$$\int \cos^3(x)\,dx$$

Problem 2: Evaluate the indefinite integral

$$\int \sin^3(x)\,dx$$

Problem 3: Evaluate the indefinite integral

$$\int \sin^2(x)\,dx$$

Problem 4: Evaluate the indefinite integral

$$\int \cos^2(x)\,dx$$

Problem 5: Evaluate the indefinite integral

$$\int \sqrt{a^2 - x^2}\,dx$$

Problem 6: Evaluate indefinite integral

$$\int x\sqrt{a^2 - x^2}\, dx$$

Problem7: Write out the partial fraction expansion of the function

$$\frac{3}{x^2 + 3x - 4}$$

Problem8: Write out the partial fraction expansion of the function

$$\frac{5x + 2}{x^2 + 3x + 2}$$

Problem 9: Evaluate the indefinite integral:

$$\int \frac{5x + 2}{x^2 + 3x + 2}\, dx$$

Problem 10: Evaluate the indefinite integral:

$$\int \frac{3}{x^2 + 3x - 4}\, dx$$