Calculus 2 Unit 1 quiz 2: Integration by partial fractions, Choosing an integration technique

Name _____ Date _____ Period _____

7 questions, 20 points

1. Find $\int \frac{\cos 2x}{\cos^2 x}\,dx$. (2 points)

2. Find the function F with $F'(x) = \frac{x-19}{x^2-2x-3}$ for $x > 3$ and $F(4) = 0$. (3 points)

3. Evaluate $\int_1^3 \frac{5x^2+2x+3}{x^3+2x^2+x}\,dx$ exactly. (3 points)

4. Find $\int \frac{x^3}{x^2-2x+1}\,dx$. (3 points)

5. Evaluate $\int_0^2 \frac{3x^2+4}{x^3+2x^2+4x+8}\,dx$ exactly. (3 points)

6. Find $\int \frac{\cos^3(2\sqrt{x})}{\sqrt{x}}\,dx$ for $x > 0$. (3 points)

7. Evaluate $\int_1^{64} \frac{dx}{\sqrt{x}+\sqrt[3]{x}}$ exactly. Choose one substitution that clears both roots. (3 points)

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