Practice worksheet | Integration

Antiderivatives involving reciprocal linear expressions, linked back to logarithmic derivatives

Name: _____ Date: _____

6 questions | 18 marks

1. Find $\int \frac{5}{x}\,dx$. [3 marks]

2. Find $\int \frac{2}{4x+1}\,dx$. [3 marks]

3. Find $\int \frac{1}{5-2x}\,dx$. [3 marks]

4. Find $\int(x+\frac{2}{x})\,dx$ on $x>0$. [3 marks]

5. Find $\int\frac{x+3}{x}\,dx$ on $x<0$. [3 marks]

6. Can $\int_{-1}^{1}\frac{1}{x}\,dx$ be evaluated by substituting into $\ln|x|$ under the ordinary definite-integral rules? Explain. [3 marks]