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1. (1 pt) Determine whether the integral is divergent or convergent. If it is convergent, evaluate it. If not, state your answer as "divergent."

$$\int_0^{\infty} 5e^{-x} dx$$

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2. (1 pt) Determine whether the integral is divergent or convergent. If it is convergent, evaluate it. If not, state your answer as "divergent."

$$\int_3^{\infty} \frac{9}{(x+4)^{9/2}} dx$$

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3. (1 pt) Determine whether the integral is divergent or convergent. If it is convergent, evaluate it. If not, state your answer as "divergent."

$$\int_{-\infty}^8 \frac{8}{(4x-34)^5} dx$$

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4. (1 pt) Determine whether the integral is divergent or convergent. If it is convergent, evaluate it. If not, state your answer as "divergent."

$$\int_{-\infty}^6 \frac{1}{x^2+1} dx$$

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5. (1 pt) Determine whether the integral is divergent or convergent. If it is convergent, evaluate it. If not, state your answer as "divergent."

$$\int_5^{\infty} \frac{\ln(x)}{x} dx$$

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6. (1 pt) Determine whether the integral is divergent or convergent. If it is convergent, evaluate it. If it diverges to infinity, state your answer as "INF" (without the quotation marks). If it diverges to negative infinity, state your answer as "MINF". If it diverges without being infinity or negative infinity, state your answer as "DIV".

$$\int_6^8 \frac{8}{\sqrt[3]{x-6}} dx$$

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