

M408D Mid-semester Review Worksheet
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1.
$$\lim_{x \rightarrow 0} \frac{x \sec 2x}{\sin 3x}$$

2.
$$\lim_{x \rightarrow 0^+} \left(\frac{6+x}{6} \right)^{18/x}$$

3. Solve for x .

$$\frac{1}{2} \ln x = \ln(2x-1)$$

4. Is $f(x) = x^4 - 4x^3 + 1$ an even function, odd function, or neither?5. Prove $\frac{Od(x)}{E(x)}$ is an odd function.6. Evaluate the integral $\int x^n \ln x \, dx$.

7.
$$\int_{-5}^{-3} x(x+5)^4 \, dx$$