1. [–/1.5 Points] DETAILS SCALCET9 3.6.004.

Differentiate the function.

$$f(x) = 4x \ln(6x) - 4x$$

$f'(x) =$

2. [–/1.5 Points] DETAILS SCALCET9 3.XP.6.015.

Differentiate the function.

$$y = \ln(|3 + t - t^3|)$$

$y' =$

Need Help? Watch It

3. [–/1.25 Points] DETAILS SCALCET9 3.6.021.

Differentiate the function.

$$y = \ln(e^x + xe^x)$$

$y' =$

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4. [–/1.25 Points] DETAILS SCALCET9 3.6.039.

Find an equation of the tangent line to the curve at the given point.

$$y = \ln(x^2 - 8x + 1), \quad (8, 0)$$

$y =$

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5. [–/1.25 Points] DETAILS SCALCET9 3.XP.6.009.

Differentiate the function.

$$f(x) = \log_{10}(x^8 + 2)$$

$f'(x) =$

6. [–/1.25 Points] DETAILS SCALCET9 3.XP.6.031.MI.

Find an equation of the tangent line to the curve at the point (2, 0).

$$y = \ln(x^2 - 3)$$

$y =$

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7. [–/1 Points] **DETAILS** SCALCET9 3.6.002.

Differentiate the function.

$$g(t) = \ln(8 + t^6)$$

$g'(t) =$

8. [–/1 Points] **DETAILS** SCALCET9 3.6.007.

Differentiate the function.

$$f(x) = \ln\left(\frac{1}{x^7}\right)$$

$f'(x) =$

9. [–/1 Points] **DETAILS** SCALCET9 3.6.012.

Differentiate the function.

$$p(t) = \ln\left(\sqrt{t^2 + 8}\right)$$

$p'(t) =$

10. [–/1 Points] DETAILS SCALCET9 3.6.024.

Differentiate the function.

$$y = \ln\left(\sqrt{\frac{5 + 4x}{5 - 4x}}\right)$$

$y' =$

11. [–/2 Points] DETAILS SCALCET9 3.6.035.MI.

Differentiate f and find the domain of f. (Enter the domain in interval notation.)

$$f(x) = \ln(x^2 - 18x)$$

derivative $f'(x) =$

domain

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12. [–/1 Points] DETAILS SCALCET9 3.6.037.

If $f(x) = \ln(3x + \ln(x))$, find $f'(1)$.

$f'(1) =$