

Name \_\_\_\_\_

- You have 15 minutes
- No calculators
- Show sufficient work

1. (4 points) The following curves intersect. Find the  $x$ -value for each point of intersection.

$$y = \ln(5x^3)$$

$$y = 2 + \ln(1 - 4x^3)$$

2. (3 points) If  $p(x) = \frac{1}{\ln(4 + 3e^{2x})}$  then determine a formula for  $p^{-1}(x)$ .

3. (3 points) Determine a formula for a function  $f(x)$  which takes on the following values.

$x$	$f(x)$
10	200
15	100
20	50
25	25
30	12.5