Mathematics 122 Quiz 3 Name: Key

1 pt (1) If $P(t) = 35.6(1.34)^t$ then compute $P(4.6)$.

$P(4.6) =$ 136.81

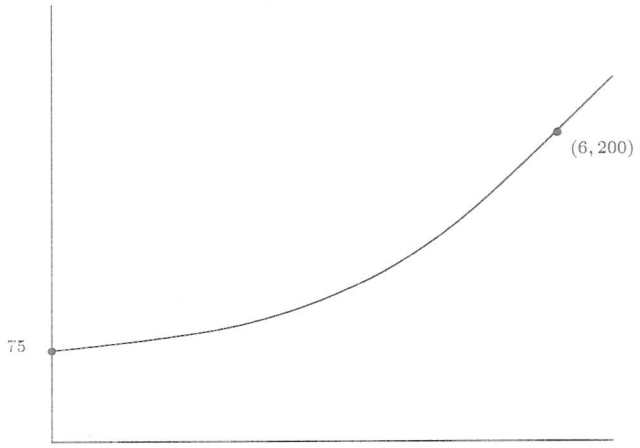
P(4.6) = 35.6(1.34)^4.6 =

(2) If $P(t) = 6.1e^{-.3t}$, then compute $P(7.2)$.

P(7.2) = 6.1e^(-.3*7.2) = $P(7.2) =$ .7035

1 pt (3) The following is a graph $y = P(t)$ of an exponential function. Find a formula for $P(t)$.

3 pts



1 pt for final answer.

$P(t) = P_0 a^t$ $P(t) =$ 75 (1.776)^t

The initial value is $P_0 = 75$.

1 pt for $P_0 = 75$

so

$P(t) = 75a^t$

To find a, plug in at $t = 6$

$P(6) = 75a^6 = 200$

so $a^6 = 200/75$ 1 pt for setting this for a

$a = (200/75)^{(1/6)} = 1.1776$