

Factor  $f(x)$ :  $x^2(x^3+x^2-10x+8)$ .

$= x^2(x-1)(x^2+2x-8)$  ← Quad. form.

$= x^2(x-1)(x-2)(x+4)$ .

0 w/ mult. 2

1 w/ mult. 1

2 w/ mult. 1

-4 w/ mult 1.

Not well-written!  
Needs explanation  
and work shown!  
Some limited  
credit.

a)  $P(t) = 120 \cdot 3^t$ .

b) We always multiply by 3, so  
 $120 \cdot 3 \cdot 3 \cdot 3 \cdot 3$  is after four years,  
since there are four threes.

c)  $5000 = 120 \cdot 3^t$ , so  $\log_3(5000/120) = t = 3.39$ .

You divide and do  $\log_3$ .

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and work shown.  
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credit.