

Unit 5 Day 8: Review

Focus Question: Do I remember everything about exponential functions?

$f(x) = a \cdot b^x$
 $f(x) = 500 \cdot (\frac{1}{5})^x$

1. Which table below shows exponential decay? **B** The function for it is _____

A.

x	y
0	500
1	525
2	550
3	575
4	600

Linear

B.

x	y
0	500
1	100
2	20
3	4
4	0.8

Exp. Decay

C.

x	y
0	500
1	400
2	300
3	200
4	100

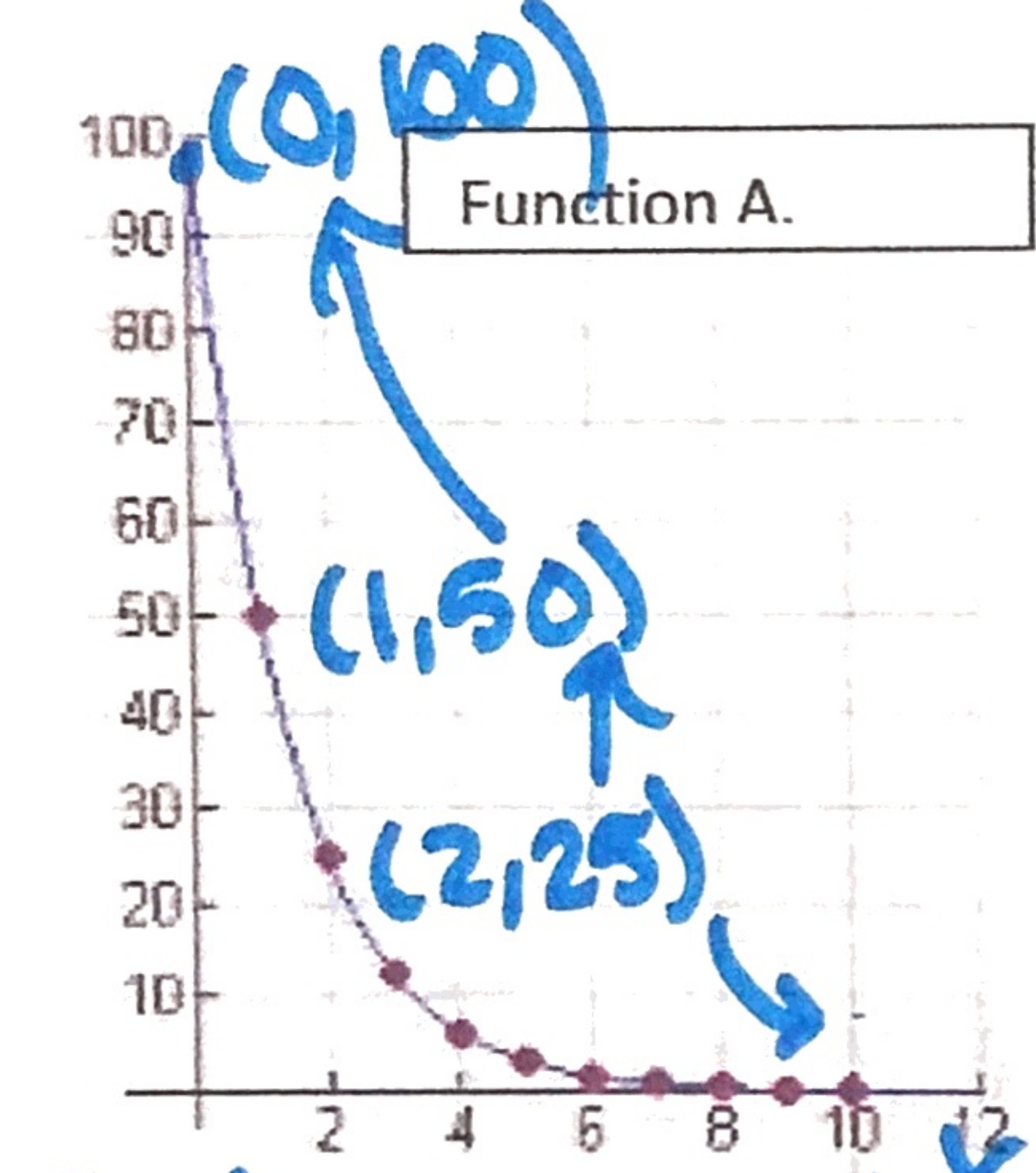
Linear

D.

x	y
0	500
1	1,000
2	2,000
3	4,000
4	8,000

Exp Growth

2. Two exponential decay functions are represented below. Write an equation for each. Then tell which has the greater rate of decay and explain.



$f(x) = 100 \cdot (\frac{1}{2})^x$
 $1 - \frac{1}{2} = \text{rate}$
 50%

Function B. A citrus orchard has 180 orange trees. A fungus attacks the trees. One month after the attack there were only 60 trees. Two months after the attack there were only 20 trees left.

m	t
0	180
1	60
2	20

$\frac{1}{3}$

$f(x) = 180 (\frac{1}{3})^x$
 $1 - \frac{1}{3} = \text{rate}$
 $\frac{2}{3}$
 $\approx 67\%$

Function B has a greater b/c $67 > 50$.

3. Raquel decides to invest some money in the stock of a company. The company's prospectus says the stock averages a yearly rate of return of 4.5%. If Raquel invests \$2500, how much will she have at the end of 6 years?

M: money she has
 y: # of years

$M(y) = 2500 \cdot (1 + 0.045)^y$
 $M(6) = 2500(1.045)^6$
 $= \$3255.65$