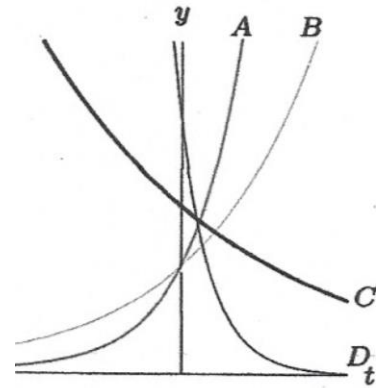


6.1.D1 ~ Exponential Functions & Their Graphs

- Which function has the largest value for a ?
- Which function has the largest value for b ?
- Which function has the smallest value for b ?
- Which functions have the same value for a ?

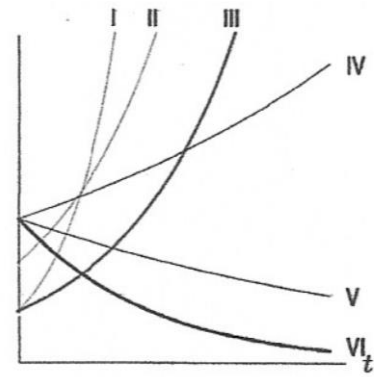
Use with problems 1 – 4:



Match each exponential function formula to one of the graphs I – VI.

- | | |
|---------------------|----------------------|
| 5. $y = 10(1.2)^t$ | 6. $y = 10(1.5)^t$ |
| 7. $y = 20(1.2)^t$ | 8. $y = 30(0.85)^t$ |
| 9. $y = 30(0.95)^t$ | 10. $y = 30(1.05)^t$ |

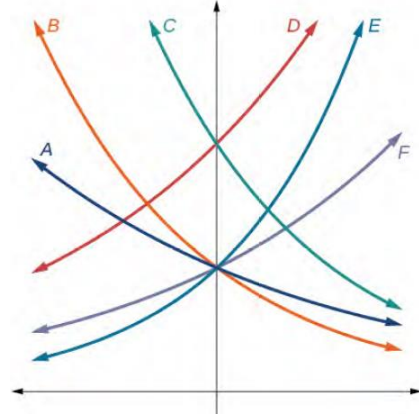
Use with problems 5 – 10:



Match the exponential function to its graph.

- | | |
|------------------------|------------------------|
| 11. $f(x) = 2(0.69)^x$ | 12. $f(x) = 2(1.28)^x$ |
| 13. $f(x) = 2(0.81)^x$ | 14. $f(x) = 2(1.59)^x$ |
| 15. $f(x) = 4(0.69)^x$ | 16. $f(x) = 4(1.28)^x$ |

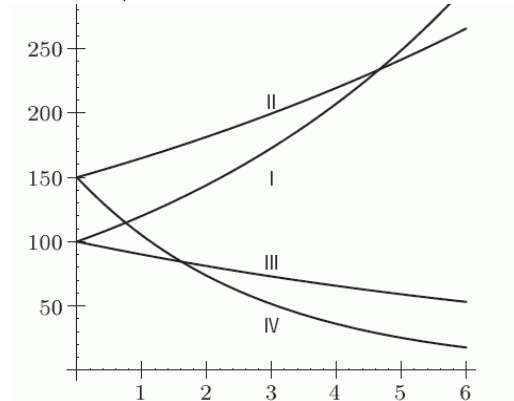
Use with problems 11 – 16:



17. Match each exponential function to one of the graphs I – IV.

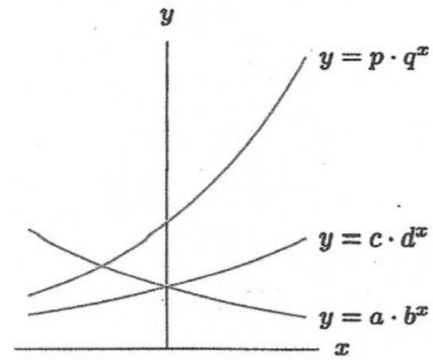
- | | |
|---------------------|---------------------|
| a. $y = 100(0.9)^t$ | b. $y = 100(1.2)^t$ |
| c. $y = 150(1.1)^t$ | d. $y = 150(0.7)^t$ |

Use with problem 17:



18. Which of these constants – a, b, c, d, p, q – are definitely positive?
19. Which of these constants – a, b, c, d, p, q – are definitely between 0 & 1?
20. Which two of these constants – a, b, c, d, p, q – are definitely equal?
21. Which of these constants – d & q – has the greater growth factor?

Use with problems 18 – 21:



Problems 22 – 24: For each exponential function:

- What is the vertical intercept of the graph?
- Is the graph of Q increasing or decreasing?
- What is the equation of the horizontal asymptote of the graph?
- Find $\lim_{t \rightarrow -\infty} Q(t)$
- Find $\lim_{t \rightarrow \infty} Q(t)$
- Describe the function's range.

	22. $Q(t) = 0.25(2)^t$	23. $Q(t) = 2(0.75)^t + 1$	24. $Q(t) = 2(1.4)^t - 1$
a.			
b.			
c.			
d.			
e.			
f.			