Name:_____ Date:_____

EXPONENTIAL FUNCTIONS PRACTICE

A. FILL IN THE BLANK

Greater than 1	left	Parenthesis	stretch	up
Between 0 and 1	shrink	right	down	reflection

1. To determine if a function is growth or decay look at the number inside the _____.
2. If the number is _____ it is a growth function.
3. If the number is _____ it is a decay function.
4. To determine if a function is a _____ see if the number in front is greater than 1
5. To determine if a function is a _____ see if the number in front is between 0 and 1
6. If there is a negative in front of the equation then there is a _____.
7. If there is + in the exponent then there is a _____ shift.
8. If there is - in the exponent then there is a _____ shift.
9. $f(x)=3(2)^{x+1}-3$ moves _____ by 3
10. $f(x)=3\left(\frac{1}{2}\right)^{x-1}+2$ moves _____ by 2

B. Analyze the following functions

11. $y=3\left(\frac{1}{2}\right)^{x-3}+1$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

12. $y=-2(4)^{x+2}-3$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

13. $y=-2\left(\frac{5}{2}\right)^{x}-5$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

14. $y=\frac{1}{3}(4)^{x+1}$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

15. $y=\frac{1}{4}(6)^{x-1}-3$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

16. $y=-4\left(\frac{2}{3}\right)^{x}+5$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

17. $y=\frac{1}{2}\left(\frac{3}{4}\right)^{x-7}$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

18. $y=-(4)^{x}+1$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

C. Answer the questions given the graphs below

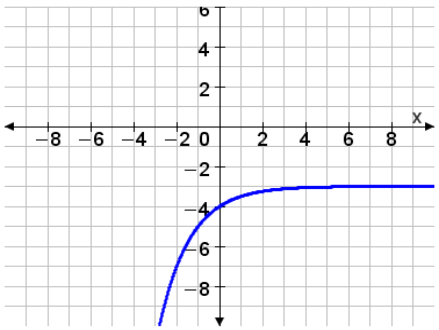
19. Which of the following could be the equation for the graph shown?

A. $f(x)=-\left(\frac{1}{2}\right)^{x-3}$

B. $f(x)=\left(\frac{1}{2}\right)^{x}-3$

C. $f(x)=-(2)^{x}-3$

D. $f(x)=-\left(\frac{1}{2}\right)^{x}-3$



20. Domain:

21. Range:

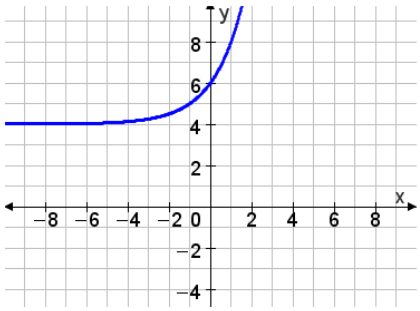
22. Which of the following could be the equation for the graph shown?

A. $f(x)=\frac{3}{4}(2)^{x}-4$

B. $f(x)=2\left(\frac{1}{2}\right)^{x}+4$

C. $f(x)=2(2)^{x}+4$

D. $f(x)=2(2)^{x+4}$



23. Domain:

24. Range:

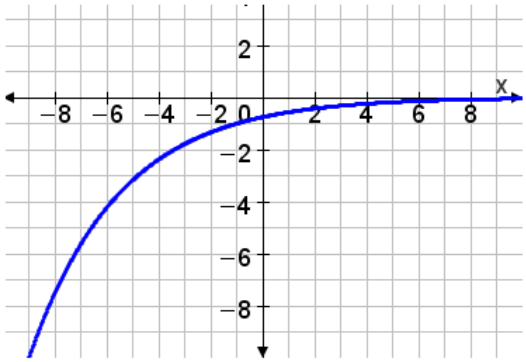
25. Which of the following could be the equation for the graph shown?

A. $f(x)=-\left(\frac{3}{4}\right)^{x+1}$

B. $f(x)=-\left(\frac{3}{4}\right)^{x}+1$

C. $f(x)=-\left(\frac{4}{3}\right)^{x}$

D. $f(x)=\left(\frac{3}{4}\right)^{x+1}$



26. Domain:

27. Range

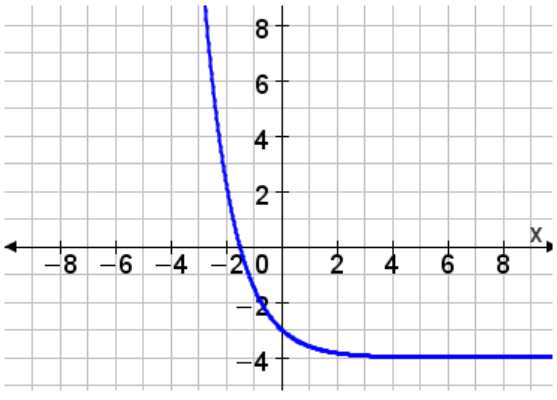
28. Which of the following could be the equation for the graph shown?

A. $f(x)=\left(\frac{5}{2}\right)^{x}-4$

B. $f(x)=\left(\frac{2}{5}\right)^{x}-4$

C. $f(x)=-\left(\frac{2}{5}\right)^{x}-4$

D. $f(x)=-\left(\frac{5}{2}\right)^{x}-4$



29. Domain:

30. Range: