

Name: _____ Period: _____ Date: _____

Exponential Functions Assignment

Find $f(x)$ given the value of x below.

$$y = 2 \cdot 5^x$$

1. $x = -2$

2. $x = 6$

3. $x = 4$

4. $x = 0$

$$y = 0.5^x$$

5. $x = -2$

6. $x = 2$

7. $x = -3$

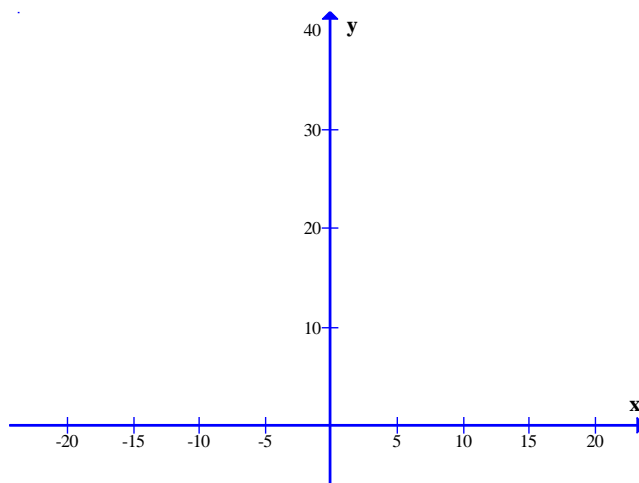
8. $x = 0$

Exponential Functions Assignment

Draw the graph of the following exponential function given their coordinates.

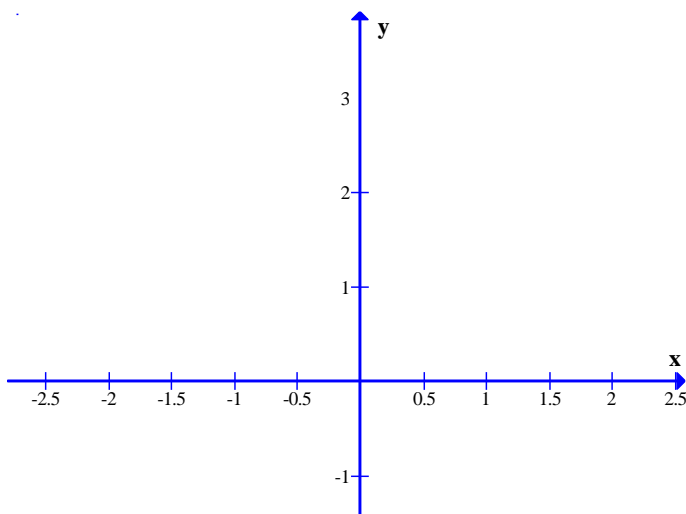
9. $y = 3^x$

x	0	2	3
y	1	9	27



10. $y = \left(\frac{3}{4}\right)^x$

x	-2	-1	0
y	1.78	1.33	1



Exponential Functions Assignment

Find the $f(x)$ given the value of x of the following function and draw the graph of the function.

$$y = 4^{x-1}$$

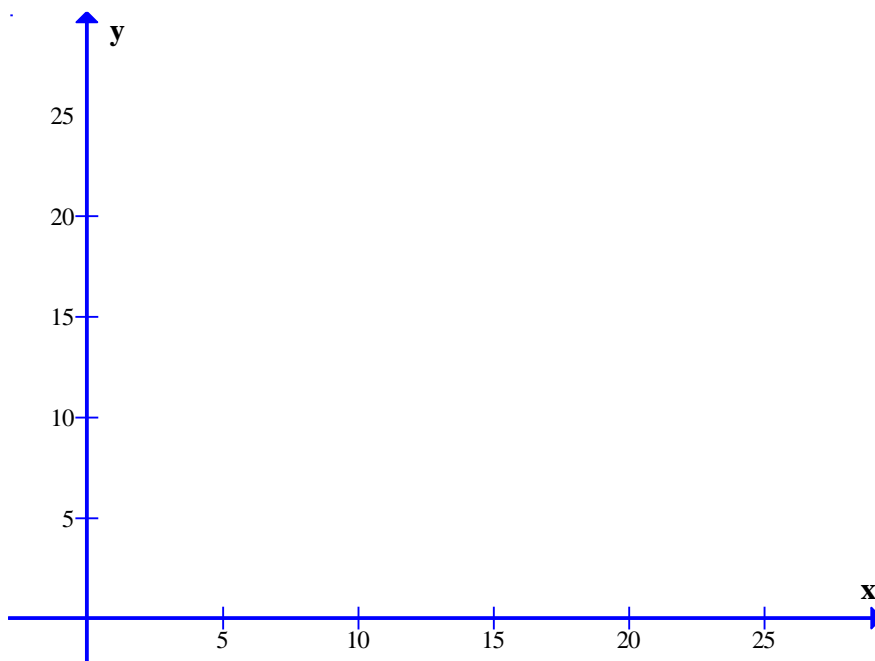
11. $x = -1$

12. $x = 1$

13. $x = 2$

14. $x = 3$

15. Graph $y = 4^{x-1}$



Exponential Functions Assignment

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

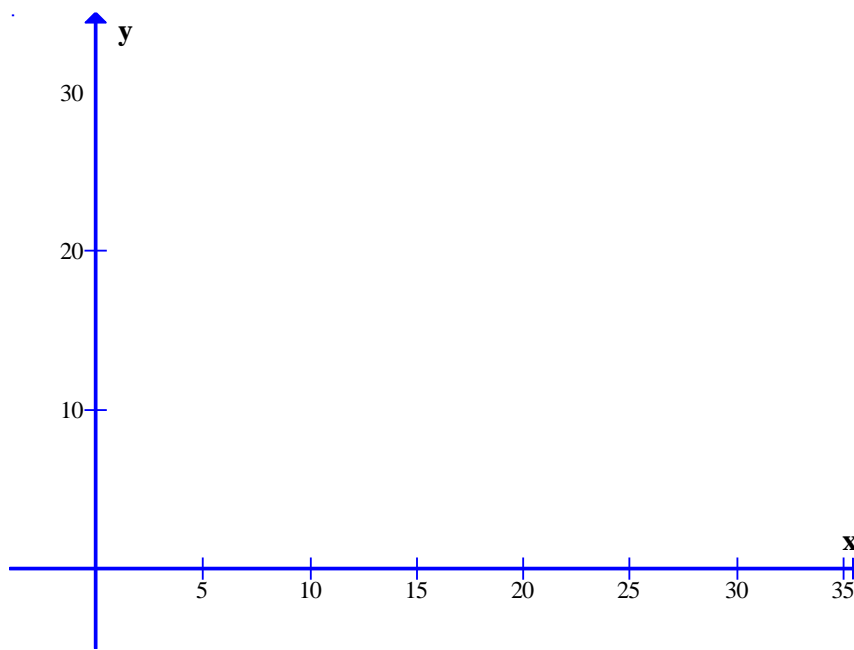
16. $x = -1$

17. $x = 0$

18. $x = 1$

19. $x = 2$

20. Graph of $y = \left(\frac{1}{2}\right)^{2x-3}$



Exponential Functions Assignment

Answer:

Find $f(x)$ given the value of x below.

$y = 2.5^x$

1. $x = -2$

Solution:

$$y = 2.5^{-2} = \left(\frac{5}{2}\right)^{-2} = \frac{2^2}{5^2} = \frac{4}{25} = 0.16$$

2. $x = 6$

Solution:

$$y = 2.5^6 = \left(\frac{5}{2}\right)^6 = \frac{5^6}{2^6} = \frac{15625}{64} = 244.14$$

3. $x = 4$

Solution:

$$y = 2.5^4 = \left(\frac{5}{2}\right)^4 = \frac{5^4}{2^4} = \frac{625}{16} = 39.06$$

4. $x = 0$

Solution:

$$y = 2.5^0 = 1$$

$y = 0.5^x$

5. $x = -2$

Solution:

$$y = 0.5^{-2} = \left(\frac{1}{2}\right)^{-2} = 2^2 = 4$$

6. $x = 2$

Solution:

$$y = 0.5^2 = \left(\frac{1}{2}\right)^2 = \frac{1}{4} = 0.25$$

7. $x = -3$

Solution:

$$y = 0.5^{-3} = \left(\frac{1}{2}\right)^{-3} = 2^3 = 8$$

8. $x = 0$

Solution:

$$y = 0.5^0 = 1$$

Draw the graph of the following exponential function given their coordinates.

9. $y = 3^x$

x	0	2	3
y	1	9	27

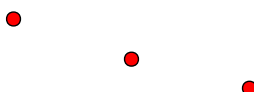


Exponential Functions Assignment

10. $y = \left(\frac{3}{4}\right)^x$

x	-2	-1	0
y	1.78	1.33	1

$f(x) = (3/4)^x$
 Series 2



Find the $f(x)$ given the value of x of the following function and draw the graph of the function.

$y = 4^{x-1}$

11. $x = -1$

Solution:

$$y = 4^{-1-1} = \frac{1}{4^2} = \frac{1}{16} = 0.0625$$

13. $x = 2$

Solution:

$$y = 4^{2-1} = 4$$

12. $x = 1$

Solution:

$$y = 4^{1-1} = 1$$

14. $x = 3$

Solution:

$$y = 4^{3-1} = 16$$

15. Graph of $y = 4^{x-1}$

$f(x) = 4^{x-1}$
 Series 3



Exponential Functions Assignment

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

16. $x = -1$

Solution:

$$y = \left(\frac{1}{2}\right)^{2(-1)-3} = 2^5 = 32$$

18. $x = 1$

Solution:

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

17. $x = 0$

Solution:

$$y = \left(\frac{1}{2}\right)^{2(0)-3} = 2^3 = 8$$

19. $x = 2$

Solution:

$$y = \left(\frac{1}{2}\right)^{2(2)-3} = \frac{1}{2} = 0.5$$

20. Graph of $y = \left(\frac{1}{2}\right)^{2x-3}$

