

Practice Masters Level A

6.2 Exponential Functions

Identify each function as linear, quadratic, or exponential.

1. $f(x) = 3^x + 2$ _____
2. $f(x) = \frac{x}{2} + 3^2$ _____
3. $f(x) = \frac{1}{2}x^2 - 3$ _____
4. $f(x) = (6^{3x})^2$ _____
5. $f(x) = (x + 2)(x - 3)$ _____
6. $f(x) = (x + 6(x - 4) - x)$ _____

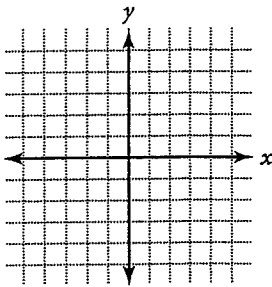
Tell whether each function represents exponential growth or decay.

7. $y = 6^x$ _____
8. $y = 2 \cdot 0.1^x$ _____
9. $y = 2 \cdot 4^x$ _____
10. $y = 1.001^x + 6$ _____
11. $y = 100 \cdot 0.77^x$ _____
12. $y = 0.001 \cdot 2^x$ _____

Graph each function by plotting five points.

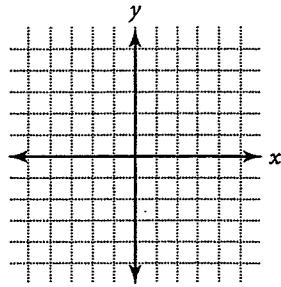
13. $y = 2^x$

x	y



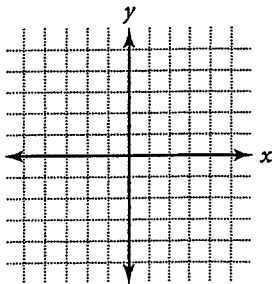
14. $y = -3^x$

x	y



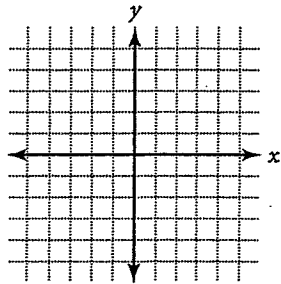
15. $y = 2(4)^x$

x	y



16. $y = -2(5)^x$

x	y



Find the final amount for each investment.

17. \$100 earning 5% interest compounded annually for 3 years _____
18. \$400 earning 6% interest compounded annually for 5 years _____

Find the amount in a continuously compounded account for the given conditions.

19. principal: \$20,000
 annual interest rate: 3.75%
 time: 2 yr

Practice

6.2 Exponential Functions

Identify each function as linear, quadratic or exponential.

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

2. $g(x) = 5x - 4^2$

3. $k(x) = 2x + 11$

4. $g(x) = 2^x + 11$

5. $w(x) = x^2 + 11$

6. $h(x) = 0.4^{2x}$

7. $b(x) = x(x - 4) + (4 - x^2)$

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

9. $h(x) = 450(0.3)^{-x}$

Tell whether each function represents exponential growth or decay.

10. $f(x) = 5.9(2.6)^x$

11. $b(x) = 13(0.7)^x$

12. $k(x) = 22(0.15)^x$

13. $m(x) = 51(4.3)^x$

14. $w(x) = 0.72 \cdot 2^x$

15. $z(x) = 47(0.55)^x$

16. $h(x) = 2.5(0.8)^x$

17. $g(x) = 0.8(3.2)^x$

18. $a(x) = 150(1.1)^x$

Find the final amount for each investment.

19. \$1300 earning 5% interest compounded annually for 10 years _____

20. \$850 earning 4% interest compounded annually for 6 years _____

21. \$720 earning 6.2% interest compounded semiannually for 5 years _____

22. \$1100 earning 5.5% interest compounded semiannually for 2 years _____

23. \$300 earning 4.5% interest compounded quarterly for 3 years _____

24. \$1000 earning 6.5% interest compounded quarterly for 4 years _____

25. \$5000 earning 6.3% interest compounded daily for 1 year _____

26. \$2000 earning 5.5% interest compounded daily for 3 years _____

Find the amount in a continuously compounded account for the given conditions.

27. principal: \$5000
 annual interest rate: 6.9%
 time: 30 yr