Name_____ Date_____ Hour___

Algebra 2 (basic) – 6.2 (trb, vs16x) Exponential Functions

6.2 Goals: Classify an exponential function as representing growth or decay; calculate the growth of an investment under give conditions; apply

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 _____

SOLUTIONS

6.2 Goals: Classify an exponential function as representing growth or decay; calculate the growth of an investment under give conditions; apply

1. quadratic 2. linear 3. linear
4. exponential 5. quadratic
6. exponential 7. linear
8. exponential 9. exponential
10. exponential growth
11. exponential decay
12. exponential decay
13. exponential growth
14. exponential growth
15. exponential decay
16. exponential decay
17. exponential growth
18. exponential growth
19. $2117.56 20. $1075.52 21. $977.06
22. $1226.08 23. $343.10 24. $1294.22
25. $5325.11 26. $2358.76