Unit 4 review

1. The population of a town is 150,000. Population increases by 23% each year. Write an equation to model the growth for any year.

 2. Population of Denmark in 2001 was 4,858,000 with a growth rate of 1.8% per year. Assuming the population continues to grow at the same rate, how many years will it take to reach 6,000,000 people?

3. Simplify: ($4A^{3 })^{4}$($-3AB^{3})^{2}$

4. Mr. Connor invested $1500.00 at 2% interest compounded annually. No deposits, no withdrawal were made. How much money did he have at the end of 7 years?

5. Reduce: $-36x^{3y}$divided by $12x^{2}y^{2}$

6. $x^{3a}$ times $x^{3b}$

7. Your parents buy a house for $240,000. The value increases each year by 6%. How many years until the house is worth $600,000?

8. y=$31000(1-0.18)^{x}$Identify the function as growth or decay AND the rate?

9. REVIEW question: given that y=$1/4x+2$ and the domain is {-1,0,1}, what is the range?

10. Given that A(n)=$(-2)(4)^{n}$What is the common ratio?

11. Brad hires a clown for a birthday party. Clown charges a flat fee of $50 plus $85 per hour. Write an equation that describes the clown’s cost.

12. What is the common ratio in the geometric sequence?

 6,4,8/3…..

13. Population in Italy in 1989 was 41,005. The population grew at a rate of 1.3% per year. How many years did it take for the population to reach 60,000?

14. Simplify: $x^{3 }y^{-2 } divided by z$

15. What is $-14x^{5}y^{-3 }$divided by $21x^{-3} y^{4}$

16. Simplify: $a^{7}b^{3 }$divided by $a^{5}b^{10}$

17. Kim deposits $50 into an account with an annual rate of 3%. The amount in her account can be determined by the formula y=p(1+$r)^{t}$How much money will be in her account in 25 years?

