Algebra 2 w/ Trig

4.1 Graph Exponential Growth Functions

Warm-Up:

* Course Evaluations
* Review Midyear

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Example 1: Graph $y=b^{x}$for *b* > 1 Example 2: Graph $y=ab^{x}$for *b* > 1

Graph $y=2^{x}$ a) Graph $y=\frac{1}{2}∙4^{x}$



b) Graph $y=-\left(\frac{5}{2}\right)^{x}$ Example 3: Graph $y=ab^{x-h}+k$for *b* > 1

 Graph $y=4∙2^{x-1}-3$. State the domain and range.



You try:

1. Graph $y=4^{x}$. State the domain and range. 2. Graph $y=\frac{2}{3}∙3^{x}$. State the domain and range.



3. Graph $y=3^{x+1}+2$. State the domain and range.





Example 4: Solve a multi-step problem

**In** 1996**, there were** 2573 **computer viruses and other computer security incidents. During the next 7 years, the number of incidents increased by about** 92% **each year.**

**Write an exponential growth model giving the number *n* of incidents** *t***years after** 1996**. About how many incidents were there in** 2003**?**

You Try:

**In the exponential growth model** $y = 527\left(1.39\right)^{x}$ **, identify the initial amount, the growth factor, and the percent increase.**

Example 5: Find the balance in an account

**You deposit** $4000 **in an account that pays** 2.92% **annual interest. Find the balance after** 1 **year if the interest is compounded with the given frequency.**

1. Quarterly b. Daily

YOU TRY:

5. **You deposit** $2000 **in an account that pays** 4% **annual interest. Find the balance after** 3 **years if the interest is compounded daily.**

**a. With interest compounded daily, the balance after** 3 **years is:**

KEEP GOING:

1. Graph $y=\frac{3}{2}∙2^{x}$. State the domain and range. 2. Graph $y=3∙2^{x-2}-1$. State the domain and range.

3. **You deposit** $1500 **in an account that pay** 3% **annual interest compounded daily. What is the balance in your account after** 1 **year?**

Hw: Section 4.1 p. 232 #1-25 odds, 28-30 all, 37-38 all