**Graphing Exponential Funtions**

Name:

**WARM-UP:**

**Match each function with the graph of the function.**

1. $y=2^{x}$ **2.** $y=-\left(2^{x}\right)$ **3.** $y= \left(\frac{1}{2}\right)$ *x* **4.** $y= -\left(\frac{1}{2}\right)$x



**Evaluate each function for the domain {-2, 0, 2}.**

**1.**  **2.**

|  |  |  |
| --- | --- | --- |
|  x |  $y=2^{x}$ |  y |
|   |  |  |
|   |  |  |
|  |  |  |

**Exponential Function:** A function that repeatedly multiplies an initial amount by the same positive number. You can model all exponential functions using *y = abx*, where *a* is a nonzero constant, *b* > 0, *b* ≠ 1.

**Graph each function***.*

 **3.** $y=2∙3^{x}$ **4.** $y=\frac{1}{2}∙2^{x}$ **5.**  $y=-\frac{1}{2}∙2^{x}$

 y-intercept: y-intercept: y-intercept:

 domain: domain: domain:

 range: range: range

**6.** The function *f(x)* = 1.25*x* models the increase in size of an image being copied over and over at 125% on a photocopier. Graph the function.



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**WORKSHOP:**

**Graph each function.**

 **1.** $y=3^{x}$ **2**. $y=\frac{1}{4}∙2^{x}$



