HW 8-4
Secondary 3

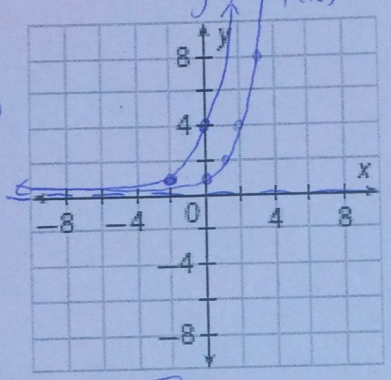
Name: Selected Answers
Date:_____ Class: _____

Describe the effect of each transformation on the parent function. Graph the parent function and its transformation. Then determine the domain, range, and y-intercept of each function.

g(x)

3. $f(x) = 2^x$ and $g(x) = 2^{x+2}$

g(x) f(x)

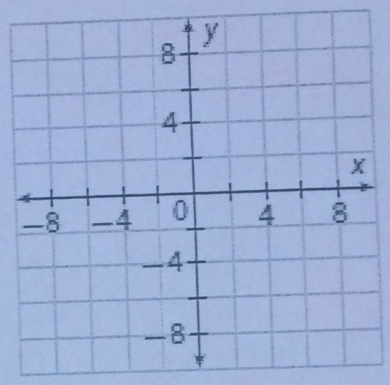


• Shift Left 2

Domain: $(-\infty, \infty)$
Range: $(0, \infty)$
y-int: $(0, 4)$

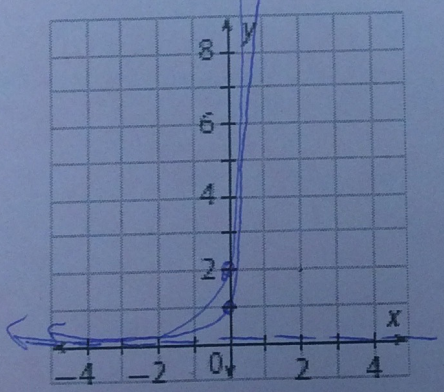
$2^{0+2} = 2^2 = 4$

4. $f(x) = 2^x$ and $g(x) = 2^x + 5$



5. $f(x) = 10^x$ and $g(x) = 2(10^x)$

g(x) f(x)

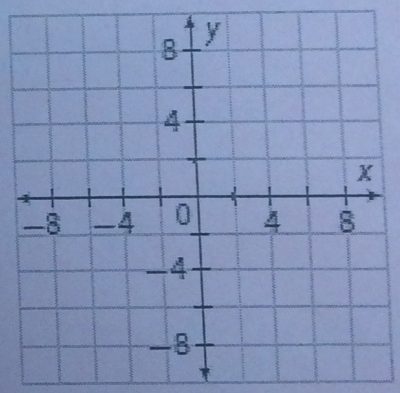


V. Stretch by 2

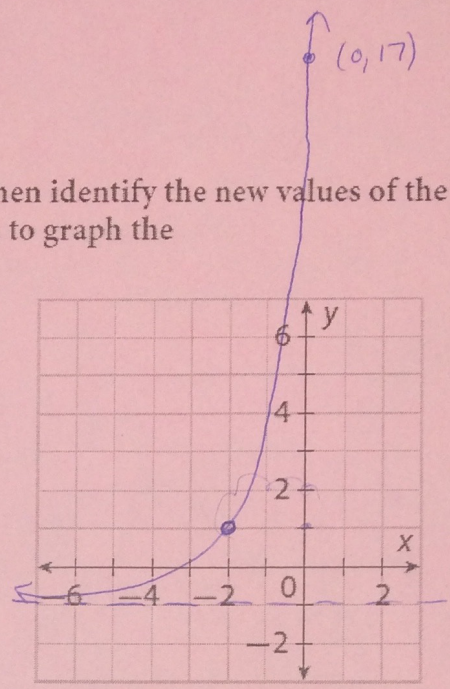
Domain: $(-\infty, \infty)$
Range: $(0, \infty)$
y-int: $(0, 2)$

$2(10)^0 = 2(1) = 2$

6. $f(x) = 10^x$ and $g(x) = -4(10^x)$



y-int. → State the domain and range of the given function. Then identify the new values of the ~~reference points~~ and the asymptote. Use these values to graph the function.



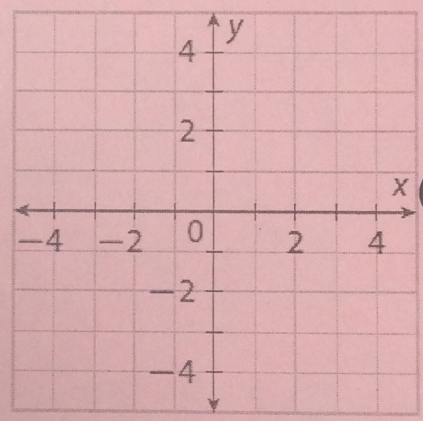
11. $h(x) = 2(3)^{x+2} - 1$

- Stretch by 2
- Shift Left 2
- Shift Down 1

Domain: $(-\infty, \infty)$
Range: $(-1, \infty)$
y-int: $(0, 17)$
H. Asymptote: $y = -1$

$2(3)^{0+2} - 1 = 2(3)^2 - 1 =$
$2(9) - 1 = (18) - 1 = 17$

15. $h(x) = -1(5)^{x+1} - 1$



Describe the transformation(s) from each parent function and give the domain and range of each function.

3. $g(x) = -\left(\frac{1}{10}\right)^{x-1} + 2$

Transformations:
- V. Flip
- Shift Right 1
- Shift Up 2

Domain: $(-\infty, \infty)$
Range: $(-\infty, 2)$

4. $g(x) = 3\left(\frac{1}{2}\right)^{x+3} - 6$