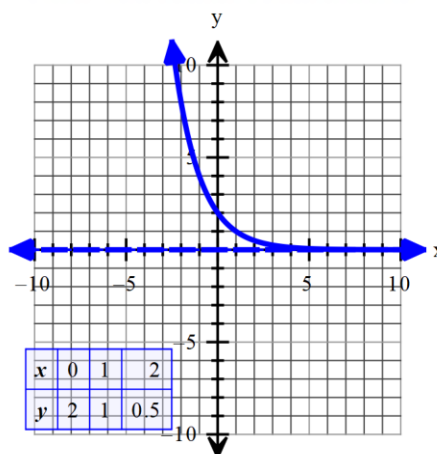


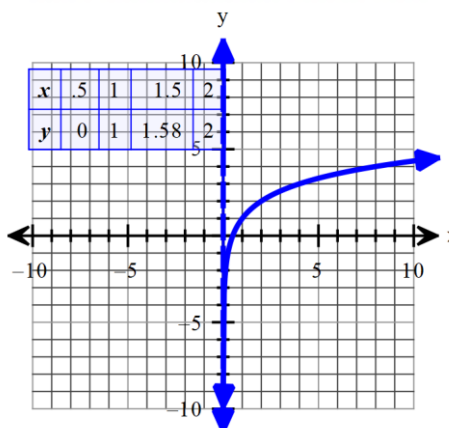
**SM3H Unit 5 test review answers**

1. -2
2. 5
3. -4
4.  $\frac{1}{2}$
5.  $-\frac{11}{2}$
6. 3
7. 2
8. 20
9. -2
10. 1
11. 0
12.  $\approx 1.5051$
13.  $\approx -.0202$
14. undefined
15.  $\approx 172.4662$
16.  $x = 2$
17.  $x = 0.0001$  or  $\frac{1}{10,000}$
18.  $x \approx 7.3891$
19. d
20. reflect over y-axis, translate down 7
21.  $\log_2 5 + \frac{1}{3} \log_2 12$
22.  $\log_8(2x - 3) - 4 \log_8 x$
23.  $\log_3 \left(\frac{6}{a}\right)$
24.  $\log(x^4 y^2)$
25.  $\log_4 \left(\frac{9\sqrt{x-5}}{\sqrt[3]{x}}\right)$
26.  $\frac{\log 210}{\log 3.4} \approx 4.3694$
27.  $\frac{\log(x+y)}{\log 4}$
28.  $\frac{\ln 13}{\ln 2}$
29.  $x = 2\frac{1}{4}$
30.  $x = \frac{5}{7}$
31.  $x = 59$
32.  $x = 84$
33.  $x = \frac{41}{12}$
34.  $x \approx 3.9904$
35.  $x = 166,670$
36.  $x \approx 6.1610$
37.  $x = 4$
38.  $x = 4, x = -2$
39.  $f^{-1}(x) = -7 + 10^{x+2}$
40.  $f^{-1}(x) = \log_5(x - 2) + 3$
41.  $f^{-1}(x) = \frac{\ln\left(\frac{x+1}{2}\right)}{5}$
42.  $f^{-1}(x) = \frac{3^{-x}+3}{2}$
43.  $(-\infty, 10)$

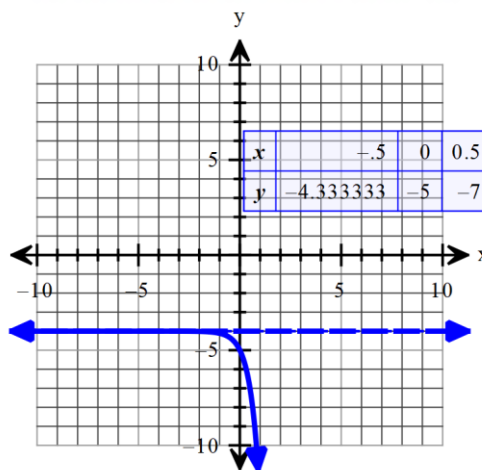
44. Translate right 1, x-intercept: none  
 y-intercept: (0, 2), HA:  $y = 0$   
 Domain:  $(-\infty, \infty)$ , Range:  $(0, \infty)$



45. Translate up 1, x-intercept:  $\left(\frac{1}{2}, 0\right)$   
 y-intercept: none, VA:  $x = 0$   
 Domain:  $(0, \infty)$ , Range:  $(-\infty, \infty)$



46. Reflect over x-axis, horizontal dilation of  $\frac{1}{2}$ ,  
 translate down 4; x-intercept: none  
 y-intercept: (0, -5), HA:  $y = -4$   
 Domain:  $(-\infty, \infty)$ , Range:  $(-\infty, -4)$

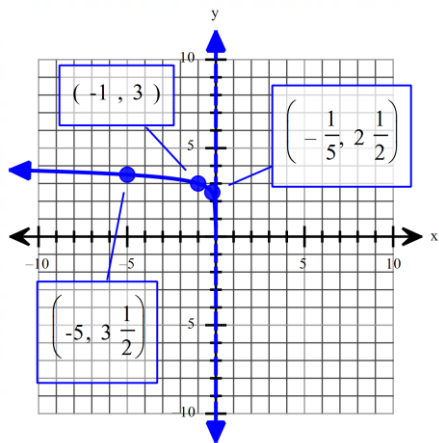


47. reflect over y-axis, vertical dilation of  $\frac{1}{2}$ , translate

up 3; x-intercept:  $(-\frac{1}{15625}, 0)$

y-intercept: none, VA:  $x = 0$

Domain:  $(-\infty, 0)$ , Range:  $(-\infty, \infty)$



48.  $A \approx \$14859.47$

49.  $t \approx 7$  years

50. 20.74 grams

51.  $x \approx 1.09869$

52.  $x = 0$