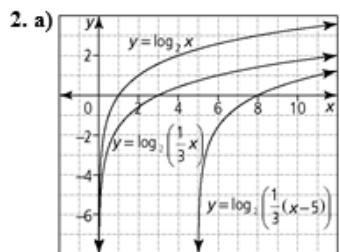
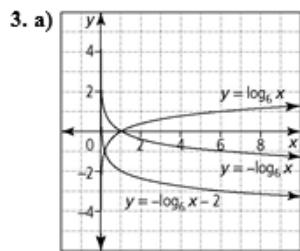


**BLM 8-3 Section 8.2 Extra Practice**

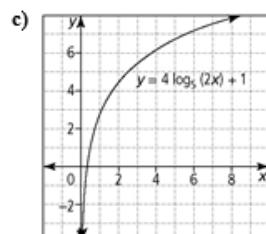
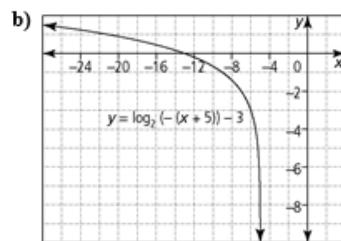
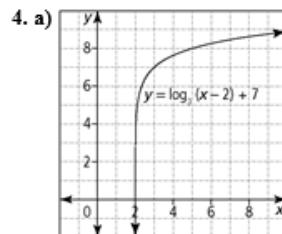
1. a) translation horizontally 8 units left and vertically 1 unit down  
 b) reflection in the  $y$ -axis, stretch horizontally about the  $y$ -axis by a factor of  $\frac{1}{3}$   
 c) reflection in the  $x$ -axis, stretch vertically about the  $x$ -axis by a factor of  $\frac{1}{2}$ , translation horizontally 10 units right and vertically 9 units up



b)  $y = \log_2 \left(\frac{1}{3}(x-5)\right)$



b)  $y = -\log_6 x + 2$



5. a) equation of asymptote:  $x = 0$ ; domain:  $\{x | x > 0, x \in \mathbb{R}\}$ ; range:  $\{y | y \in \mathbb{R}\}$ ; y-intercept: none; x-intercept:  $(-\frac{1}{125}, 0)$

- b) equation of asymptote:  $x = 4$ ; domain:  $\{x | x > 4, x \in \mathbb{R}\}$ ; range:  $\{y | y \in \mathbb{R}\}$ ; y-intercept: none; x-intercept:  $(4.5, 0)$
- c) equation of asymptote:  $x = -2$ ; domain:  $\{x | x > -2, x \in \mathbb{R}\}$ ; range:  $\{y | y \in \mathbb{R}\}$ ; y-intercept:  $(0, -2.4)$ ; x-intercept:  $(-1.4, 0)$
- d) equation of asymptote:  $x = 10$ ; domain:  $\{x | x > 10, x \in \mathbb{R}\}$ ; range:  $\{y | y \in \mathbb{R}\}$ ; y-intercept: none; x-intercept:  $(12, 0)$

6. a)  $y = \log_4\left(\frac{1}{4}x\right)$  or  $y = \log_4 x - 1$  b)  $y = -3 \log_2 x$

c)  $y = \log_3(-2x)$  d)  $y = -4 \log_4 x$

7. a) a vertical stretch about the  $x$ -axis by a factor of 2, a horizontal stretch about the  $y$ -axis by a factor of  $\frac{1}{5}$ , a reflection in the  $x$ -axis, and a translation 4 units right and 7 units up  
b) a vertical stretch about the  $x$ -axis by a factor of 0.2, a reflection in the  $y$ -axis, and a translation 1 unit left and 3 units down