

BLM 8–2 Section 8.1 Extra Practice

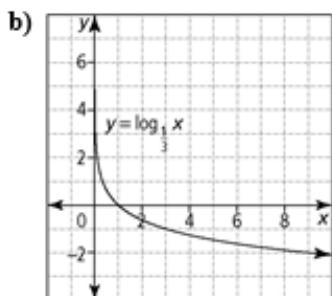
1. a) 2 b) 3 c) 3 d) 4 e) 0 f) $\frac{1}{2}$ g) -2 h) $\frac{3}{5}$

2. a) $\log_3 243 = 5$ b) $\log_{16} 2 = \frac{1}{4}$

3. a) $4^3 = 64$ b) $4^{\frac{3}{2}} = 8$

4. a) 16 b) $\frac{1}{5}$ c) 3 d) 8

6. a) $y = \log_{\frac{1}{3}} x$



c) domain: $\{x | x > 0, x \in \mathbb{R}\}$; range: $\{y | y \in \mathbb{R}\}$;
x-intercept: (1, 0); y-intercept: none
d) vertical asymptote at $x = 0$

7. a) domain: $\{x | x > 0, x \in \mathbb{R}\}$; range: $\{y | y \in \mathbb{R}\}$;
x-intercept: (1, 0); y-intercept: none; vertical asymptote at $x = 0$

b) domain: $\{x | x > 0, x \in \mathbb{R}\}$; range: $\{y | y \in \mathbb{R}\}$;
x-intercept: (1, 0); y-intercept: none; vertical asymptote at $x = 0$

10. $k = 6$

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) $y = -4 \log_4 x$