

ACTIVITY 22 Continued

ACTIVITY PRACTICE

- There is no y -intercept.
- (1, 0)
- $M(x)$ is increasing.
- D
- 1.672
 - 1.505
 - 0.146
 - not a real number
- C
- $10^4 = 10,000$
 - $10^{-9} = \frac{1}{1,000,000,000}$
 - $10^6 = a$
- $\log \frac{1}{100} = -2$
 - $\log 10 = 1$
 - $\log n = 4$
- 5
 - 2
 - 5
- B
- $0.301 + 0.447 = 0.748$
 - $0.301 - 0.447 = -0.146$
 - $0.447 - 0.301 = 0.146$
 - $0.301 + 0.447 + 0.447 = 1.195$
- B
- Sample answer: Simplify $\log 10^3 + \log 10^5 = \log 10^8$ to $3 \log 10 + 5 \log 10 = 8 \log 10$. Since $\log 10 = 1$, the log equation becomes $3 + 5 = 8$, which is precisely the same operation used in the exponent product.
- $\log \frac{2x}{3y}$
 - $\log \frac{5}{7}$
 - $\log \frac{24 \cdot 12}{6} = \log 48$
- $\log 3 + \log x - (\log 8 + \log y)$
 - $\log (m + v) - \log 3$
 - $\log 4 - \log (9 - u)$
- 0.602
 - 1.431
 - 0.151
 - 0.540
- $\log uv = \log u + \log v$
 - $\log \frac{u}{v} = \log(u) - \log(v) =$
 - $\log u^v = v \log(u)$
- $\log x + 2 \log y$
 - $\log x + \log y - \log z$
 - $3 \log a + 2 \log b$
- 3.816
 - 2.709
 - 1.857
- $2 m \log n$
 - 0
 - $7 \log 2$
- D
- $\log 10^x - \log 10^4$
 $= x \log 10 - 4 \log 10$
 $= (x - 4) \log 10$
 $= (x - 4)(1)$
 $= x - 4$
 $\log 10^\pi - \log 10^4$
 $= 3.14 - 4$
 $= -0.86$