

# Answer Key

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## Practice C

1.  $y = 2.3(1.6)^x$    2.  $y = 4.5(0.2)^x$

3.  $y = 5.3(2.8)^x$    4.  $y = 4(3.5)^x$

5.  $y = 1.5(2)^x$

6.  $y = ab^x$

$$\ln y = \ln(ab^x)$$

$$\ln y = \ln a + \ln b^x$$

$$\ln y = \ln a + x \ln b$$

constant

Thus, there is a linear relationship between  $x$  and  $\ln y$ .

7.  $y = 1.5x^{0.5}$    8.  $y = 2.4x^{1.5}$

9.  $y = 8.3x^{0.25}$    10.  $y = 3x^{1.2}$    11.  $y = 2.5x^{2.5}$

12.  $y = ax^b$

$$\ln y = \ln ax^b$$

$$\ln y = \ln a + \ln x^b$$

$$\ln y = \ln a + b \ln x$$

constant

Thus, there is a linear relationship between  $\ln x$  and  $\ln y$ .

13.  $y = 28.38(1.14)^x$

14.  $y = 30.84x^{0.33}$    15. The exponential model is better because the relationship between  $x$  and  $\ln y$  is closer to linear than the relationship between  $\ln x$  and  $\ln y$ .