Answer Key · Lesson 7.3: Exponential Models

School Launch · Algebra II · Unit 7 · Worksheet A · for the parent

Key

1. $a = 30,\ b = 2$

An exponential model $y = ab^x$ passes through $(2, 120)$ and $(5, 960)$. Find a and b.

2. $a = 90,\ b = 2$

An exponential model $y = ab^x$ passes through $(2, 360)$ and $(4, 1440)$. Find a and b.

3. $a = 100,\ b = 3$

An exponential model $y = ab^x$ passes through $(2, 900)$ and $(4, 8100)$. Find a and b.

4. $a = 80,\ b = 2$

1. Divide: $b^{1} = \dfrac{1280}{640} = 2$, so $b = 2$
2. $a = \dfrac{640}{2^{3}} = 80$

An exponential model $y = ab^x$ passes through $(3, 640)$ and $(4, 1280)$. Find a and b.

5. $a = 200,\ b = 3$

1. Divide: $b^{1} = \dfrac{1800}{600} = 3$, so $b = 3$
2. $a = \dfrac{600}{3^{1}} = 200$

An exponential model $y = ab^x$ passes through $(1, 600)$ and $(2, 1800)$. Find a and b.

6. $a = 170,\ b = 3$

1. Divide: $b^{2} = \dfrac{4590}{510} = 9$, so $b = 3$
2. $a = \dfrac{510}{3^{1}} = 170$

An exponential model $y = ab^x$ passes through $(1, 510)$ and $(3, 4590)$. Find a and b.

7. $a = 180,\ b = 3$

1. Divide: $b^{1} = \dfrac{1620}{540} = 3$, so $b = 3$
2. $a = \dfrac{540}{3^{1}} = 180$

An exponential model $y = ab^x$ passes through $(1, 540)$ and $(2, 1620)$. Find a and b.

8. $a = 70,\ b = 2$

1. Divide: $b^{3} = \dfrac{4480}{560} = 8$, so $b = 2$
2. $a = \dfrac{560}{2^{3}} = 70$

An exponential model $y = ab^x$ passes through $(3, 560)$ and $(6, 4480)$. Find a and b.

9. $a = 110,\ b = 3$

1. Divide: $b^{3} = \dfrac{80190}{2970} = 27$, so $b = 3$
2. $a = \dfrac{2970}{3^{3}} = 110$

An exponential model $y = ab^x$ passes through $(3, 2970)$ and $(6, 80190)$. Find a and b.

10. $a = 170,\ b = 2$

1. Divide: $b^{2} = \dfrac{2720}{680} = 4$, so $b = 2$
2. $a = \dfrac{680}{2^{2}} = 170$

An exponential model $y = ab^x$ passes through $(2, 680)$ and $(4, 2720)$. Find a and b.