

7.1.5 # 59-66 (skip 60-61) + Supplemental
 ↳ #64 graph on same world probs.
 axes

7-59 $y = ab^x$

a.) $(0, 5)$ start = a

$$y = 5b^x$$

$(1, 7)$ extra pt.

$$\frac{7}{5} = \frac{5b^1}{5}$$

$$\boxed{1.4 = b}$$

$$y = 5(1.4)^x$$

together
2016

b.) $(0, 40)$

$$y = 40b^x$$

$(-1, 120)$

$$\frac{120}{40} = \frac{40b^{-1}}{40}$$

$$3 = b^{-1}$$

$$3 = \frac{1}{b}$$

$$\frac{3b}{3} = \frac{1}{3}$$

$$\boxed{b = \frac{1}{3}}$$

$$y = 40\left(\frac{1}{3}\right)^x$$

c.) $(0, 7)$

$$y = 7b^x$$

$(3, 56)$

$$56 = \frac{7b^3}{7}$$

$$\sqrt[3]{8} = \sqrt[3]{b^3}$$

$$\boxed{2 = b}$$

$$y = 7(2)^x$$

d.) $(0, 18)$

$$y = 18b^x$$

$(5, 18)$

$$18 = \frac{18b^5}{18}$$

$$\sqrt[5]{1} = \sqrt[5]{b^5}$$

$$\boxed{1 = b}$$

$$y = 18(1)^x$$

e) $(2, 75)$
 $(3, 375)$

x	0	1	2	3
y	3	15	75	375

↙
x5

$$y = 3(5)^x$$

f) $(0, -8)$
 $(1, -16)$

$$y = -8b^x$$

$$\frac{-16}{-8} = \frac{-8b^1}{-8}$$

$$\boxed{2 = b}$$

$$y = -8(2)^x$$

OR

Solve for a

$$y = a(5)^x$$

$$75 = a(5)^2$$

$$\frac{75}{25} = \frac{a(25)}{25}$$

$$\boxed{3 = a}$$