

HW 7

20, 65,

24, 46

$$\underline{20.} \quad f(x) = .825x$$

$$f^{-1}(x) = \frac{1000x}{825}$$

$$= \frac{1000}{825}x$$

$$= \frac{40}{33}x$$

$$f^{-1}(x) = 1.\overline{21}x.$$

$$24. \quad f(x) = 145 + 12.5x$$

$$y = 145 + 12.5x$$

$$x = 145 + 12.5y$$

$$\frac{x - 145}{12.5} = \frac{12.5y}{12.5}$$

$$\frac{1}{12.5}x - \frac{145}{12.5} = y$$

$$.08x - 11.6 = y$$

$$f^{-1}(x) = .08x - 11.6$$

105  $f(x) = 15 \left( \frac{89}{100} \right)^x$

decay

decay  $b < 1$   
growth  $b > 1$

106  $f(x) = \frac{1}{25} (.5^x)$

decay

7.1 Review

22.  $A = P \left(1 + \frac{r}{n}\right)^{nt}$

$P = \$5000$

$r = 5\% = .05$

$n = 4$

$t = ?$

a.  $A = 5000 \left(1 + \frac{.05}{4}\right)^{4(5)}$

$A = 5000(1.0125)^{20}$

$A = \$6417.19$

b. 14 yrs.

c.  $A = 5000 \left(1 + \frac{.05}{12}\right)^{12(5)}$

$A = 5000(1.0042)^{60}$

$A = \$$

 $\$60.60$

HWA 7.1 & 7.2

p. 521 # 1, 5, 6, 10

Exp. Form

$$2^6 = 64$$

$$4^1 = 4$$

$$5^0 = 1$$

$$9^2 = 81$$

$$3^3 = 27$$

Log form

$$\longrightarrow \log_2 64 = 6$$

$$\log_4 4 = 1$$

$$\log_5 1 = 0$$

$$\log_9 81 = 2$$

$$\log_3 27 = 3$$

Ex<sup>2</sup> log form

$$\log_{10} 100 = 2$$

$$\log_7 49 = 2$$

$$\log_8 .125 = -1$$

$$\log_{10} 10 = 1$$

$$\log_{12} 144 = 2$$

Exp. form

$$10^2 = 100$$

$$7^2 = 49$$

$$8^{-1} = .125$$

$$10^1 = 10$$

$$12^2 = 144$$

