

Unit 5 Pg. 26

(1) $4^3 = 64$

(2) $7^{-2} = \frac{1}{49}$

(3) $81^{\frac{1}{4}} = 3$

(4) $e^0 = 1$

(5) $\log_5 125 = 3$

(6) $\log_8 2 = \frac{1}{3}$

(7) $\log_9 \frac{1}{81} = -2$

(8) $\log_b a = p$

(9) 4

(10) $\frac{1}{2}$

(11) 1

(12) 3

(13) 1

(14) 4

(31) $\ln \frac{2x}{x+1} = \ln 5$

$\frac{2x}{x+1} = 5$
 $2x = 5x + 5$

$-3x = 5$

$x = -\frac{5}{3}$

∅

(32) $\log x(x-9) = \log 1$

$10^1 = x^2 - 9x$

$0 = x^2 - 9x - 10$

$0 = (x-10)(x+1)$

$x = 10$ ~~$x = -1$~~

(33) $A = 10(1 + .05)^8$

$A = 333.16 \rightarrow 334$

(34) $A = Pe^{rt}$

$15000 = 5000e^{.02t}$

$3 = e^{.02t}$

$\ln 3 = .02t$

$t = \frac{\ln 3}{.02}$

$t = 54.9$

(35) $A = Pe^{rt}$

$\frac{50000}{5000} = \frac{5000e^{50r}}{5000}$

$100 = e^{50r}$

$\frac{\ln 100}{50} = r$

$r = .0021$

9.21%

(36) $y = ab^{\frac{x}{5}}$

$y = 50(1.5)^{\frac{13000}{5760}}$

$y = .025$