NEW

FST: Review for Final EXAM

(1) $\pi/6, \frac{5}{6}\pi$

(2) (a) $-\frac{1}{2}$ (b) $\frac{1}{2}$ (c) 0

(3) $x = 12.4053$ m
$y = 55.6682°$

(3) $x = 30.0101$ cm

(4) $x = -0.993\ldots$
$y = 2.68\ldots$
$z = -1.056\ldots$

(5) $y = \frac{3}{4}\sin\left(\frac{x+2}{1/2}\right)$
or $y = \frac{3}{4}\sin(2x+4)$

(6) (a) $2, 2\pi, 0, \pi/3$
(b) $5, 4\pi, 3, 0$

(7) $x = 8.2822$ un.

(8) $\theta = 4.5739°$; yes.

(15) 1

(16) (a) $16x^4 + 96x^3y + 216x^2y^2 + 216xy^3 + 81y^4$
(b) $x^3 - 6x^2y + 12xy^2 - 8y^3$

(17) (a) 0 (b) $5/3$ (c) 0

(18) 17,850

(19) 8,748 ; 6,560

(20) Formula! 11.2551

(21) 0.9445

(22) 1, 12, 66, 220 ; 4,096

(23) $|r|<1$; $21\frac{1}{3}$

(24) 161,700

(25) 12,812,904

(26) (a) 6561
(b) 5,832
(c) 2,000

(27) (a) 117,600
(b) 125,000

(28) 720

(29) 4,060

(30) 70 ; 35

(31) 15

(32) $5/6$

(33) 0.1962

(34) 8.8980

(35) 0.18

(36) (a) 0.078
(b) 0.20
(c) 0.77

(37) $2k$; k-seen $2k$ exist

(38) $x = 3$

(39) $y = x^3 + 2x + 1$

(40) $(\sqrt{2}, \sqrt{2})$

(41) $[\sqrt{13}, 56.3099°]$

(41) $[\sqrt{13}, 56.3099°]$
$[\sqrt{13}, -303.6901°]$
$[-\sqrt{13}, 123.6901°]$

(42) 3 real zeros
least possible degree: 3

(43) $1+5i$; $-10+10i$
$-\frac{1}{10} - \frac{7}{10}i$

(44) 3rd degree

(45) False $(x+2)$

(46) exponents

(47) exponential

(48) if $\log_b x$ then $\frac{\log_c x}{\log_c b}$
$\frac{\log x}{\log 15}$

(49) (a) $x = 1.9480$ (b) $x = 2/3$
(c) 562.3413 (d) $x = -3$

(50) $\log y = 2\log x + \log y$

(51) $\log y = \log(x+y) - 2\log y$

(52) $\ln y = \ln x - \ln y$

(53) $\ln y = [2\ln x + \ln y] - [\ln x - 2\ln y]$

(54) see C-notes

(55) NO ≈ 1322 A.D.

(56) $t \approx 2009$
(18.2322 yrs. from 1990)

(57) [exact]
$t = 50.3422$ hrs.