

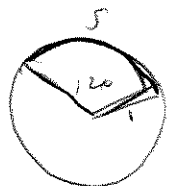
# Assignment #3

1.  $x^4 - 13x^2 + 36$

$(x^2 - 9)(x^2 - 4)$

$(x+3)(x-3)(x+2)(x-2)$

③



$C = \pi d$   
 $c = 2\pi r$

$\frac{120}{360} = \frac{x}{2\pi} = \frac{2\pi}{3}$

③

6.  $s_0 = 6$   $v_0 = 90$   $t = 4$

$s = -16(4)^2 + 90(4) + 6$

$= -256 + 360 + 6 = 110$

①

$30000 = \frac{d}{.035} ((1 + .035)^t - 1)$

$d = 3,314.30$

③

7.  $x^2 - 4x + 13 = 0$

$\sqrt{(x-2)^2} = \pm \sqrt{9}$

$x-2 = \pm 3$

$2 \pm 3$

①

8.  $(a^b)^{\frac{1}{5}} = a^{\frac{b}{5}} = a^1 = a$

①

12.  $\frac{8-14}{5-2} = \frac{-6}{3} = -2$

②

30.  $V = l \times w \times h = 20 \dots^3$

$l = x+5$

$w = x$

$h = x-1$

$x(x-1)(x+5) = 20$

$(x^2 - x)(x+5) = 20$

$(x^3 + 4x^2 - 5x - 20) = 0$

$x^2(x+4) - 5(x+4) = 0$

$(x^2 - 5)(x+4) = 0$

$x^2 - 5 = 0$   $x = -4$

$x = \pm \sqrt{5}$

$x = \sqrt{5} = 2.236$

$\approx 2.24$

31.  $K(t)$  is decay because  $.88 < 1$

$A_0$  is 280, the amount she owes

$.88 = 1 + r$

$-.12 = r$

The amount owed decreases by 12% each year.