

①  $W = .0071(15)^3 - .09(15)^2 + .048(15)$   
 $= \boxed{4.43 \text{ carats}}$

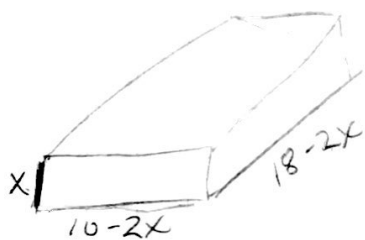
②  $(109t + 4010)(.542t^2 - 7.16t + 79.4)$

$T = \boxed{59.078t^3 + 1392.98t^2 - 20057t + 318394}$

③  $M + .091t^3 - 4.8t^2 + 110t + 5000$   
 $F - .19t^3 - 12t^2 + 350t + 3600$

$\boxed{-.099t^3 - 16.8t^2 + 460t + 8600}$

④  $180 = lw$   
 $V = lwh$

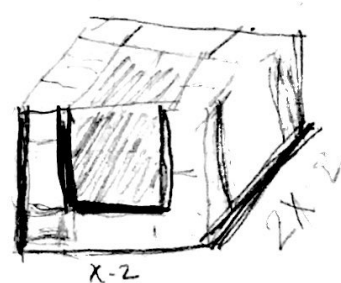
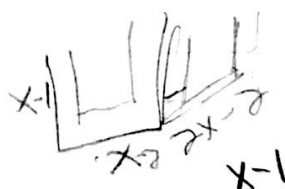


$l = 5.88$   
 $w = 13.88$

$x(10-2x)(18-2x) = V$

$h = 2.06$   
 $V = 168$

⑤  $(2x-2)(x-2)(x-1) = 36$



$(2x-2)(x^2 - 3x + 2)$   
 $2x^3 - 6x^2 + 4x - 2x^2 + 6x - 4$

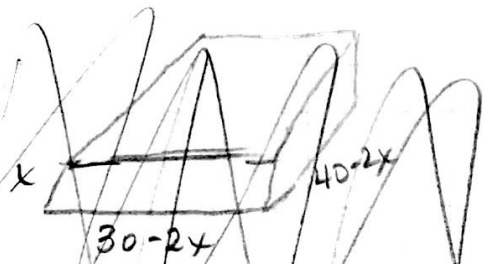
$2x^3 - 8x^2 + 10x - 40 = 0$

$x = 4 \text{ ft}$

$2x^2(x-4) + 10(x-4) = 0$

$(x-4)(2x^2+10) = 0$

$\boxed{6 \times 2 \times 3 \text{ ft}}$



$$x = 5.66 \text{ cm}$$

$$l = 18.68 \text{ cm}$$

$$w = 28.68 \text{ cm}$$

$$V = 3032.3 \text{ cm}^3$$

$$V = x(30-2x)(40-2x)$$

⑥

@ .948 sec going 3.63

$$.0001(-t^4 + 12t^3 - 77t^2 + 600t + 13650) \pm 1.5$$

year 3 & 9

year 6.61 1.581 mil

⑦

$$-x^3 + 4x^2 + x = 4$$

$$-x^3 + 4x^2 + x - 4 = 0$$

$$-x^2(x-4) + 1(x-4) = 0$$

$$(x-4)(-x^2+1) = 0$$

$$-x^2 = -1$$

$$x = \pm 1$$

1 mil