Tues/Wed 2/3 & 2/4 (5.2.3 5-84 → 5-92)

5-84) $y = 2^x + 15$

5-85) $x = 7^y$ $\boxed{y = \log_7 x}$ convert to log form

5-86) $\sqrt[3]{n^3} = \sqrt[3]{49}$ $\boxed{n \approx 3.66}$

5-87) $x^2 + (y+2)^2 = r^2$

$(x+2)^2 + (y-3)^2 = (2r)^2$

$(x+2)^2 + (y-3)^2 = 4r$

5-88) $4T = 3B$

$T = \frac{3}{4}B$

$3T + 6B = 8.58$

$\left[\frac{5}{1} \cdot \frac{3}{4}B + 6B = 8.58\right] 4$

$15B + 24B = 34.32$

$\frac{39B}{39} = \frac{34.32}{39}$ $B = .88$

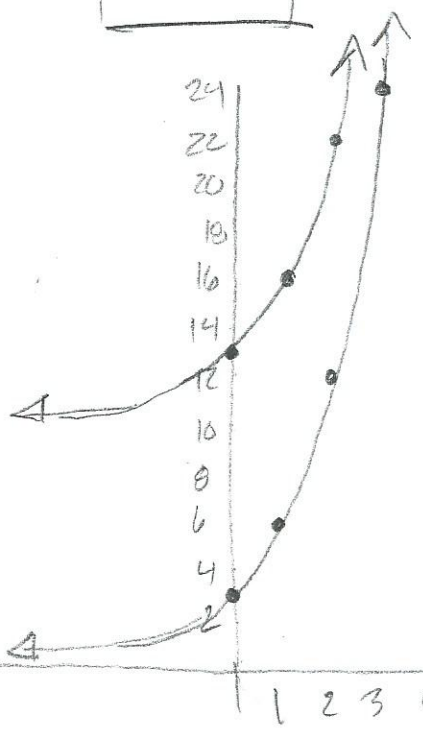
$T = 3/4(.88) = \boxed{\$.66}$

5-89) $y = 3(2^x)$

x	y
0	3
1	6
2	12
3	24

$y = 3(2^x) + 10$

x	y
0	13
1	16
2	22



a) The 2nd is the 1st graph shifted up 10

b) $y = km^x + b$

5-90) a) $|x-1| = 9$ $\quad x-1=9$ $\quad x-1=-9$

$x=10$ $\quad x=-8$

b) $2|x+1|+3=9$

$-3 \quad -3$

$\frac{2|x+1|}{2} = \frac{6}{2}$

$|x+1| = 3$ $\quad x+1=3$ $\quad x+1=-3$

$x=2$ $\quad x=-4$

c) $|x-1| < 3$ $\quad x-1<3$ and $x-1>-3$

$x<4$ $\quad x>-2$

$-2<x<4$

d) $|x+5| \geq 8$ $\quad x+5 \geq 8$ or $x+5 \leq -8$

$x \geq 3$ or $x \leq -13$

5-91) a) x^2+8x $\quad x(x+8)$

b) $x^2y^2-81z^2$ $\quad (xy-9z)(xy+9z)$

c) $2x^2-14x-16$

$2(x^2-7x-8)$

$2(x-8)(x+1)$

d) $3x^2-11x-4$ $\quad 3(-4)=-12$, $-12 \to 1$

$3x^2-12x+1x-4$

$3x(x-4)+1(x-4)$

$(3x+1)(x-4)$

5-92) a) $\frac{2-x}{x+4} + \frac{3x+6}{x+4} = \frac{2x+8}{x+4} = \frac{2(x+4)}{(x+4)} = 2$

b) $\frac{3}{(x+2)(x+3)} + \frac{x}{(x+2)(x+3)} = \frac{(x+3)}{(x+2)(x+3)} = \frac{1}{x+2}$

c) $\frac{(x-2)}{(x-2)(x-1)}\frac{3}{} \div \frac{2}{(x-2)}\frac{(x-1)}{(x-1)} = \frac{3x-6-(2x-2)}{(x-2)(x-1)}$

$\frac{3x-6-2x+2}{(x-2)(x-1)} = \frac{x-4}{(x-2)(x-1)}$

d) $\frac{(x+2)}{(x+2)}\frac{8}{x} - \frac{4}{x+2}\frac{(x)}{(x)} = \frac{8x+16-4x}{x(x+2)} = \frac{4x+16}{x(x+2)}$