ex. 30

$W = 15$

i	p_i	w_i	p_i/w_i
1	64	4	16
2	90	6	15
3	91	7	13
4	48	4	12
5	33	3	11
6	10	1	10

$$\text{total weight} = wt + \sum_{j=i+1}^{k-1} w_j$$

$$\text{bound} = \left(p_i + \sum_{j=i+1}^{k-1} p_j\right) + \left(w - \text{tot wt} \cdot \frac{p_k}{w_k}\right)$$

weight $\geq w$

$f(p_i) + W_{wj}\left(\frac{p_i}{w_j}\right)$ = Best actual profit

Greedy Approach

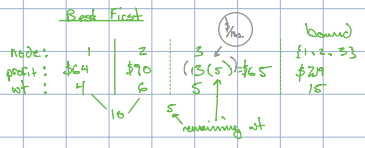
$P_1 \rightarrow P_2 \rightarrow P_4 = f(P_1 + P_2) = 64 + 90 + 48 + 10$

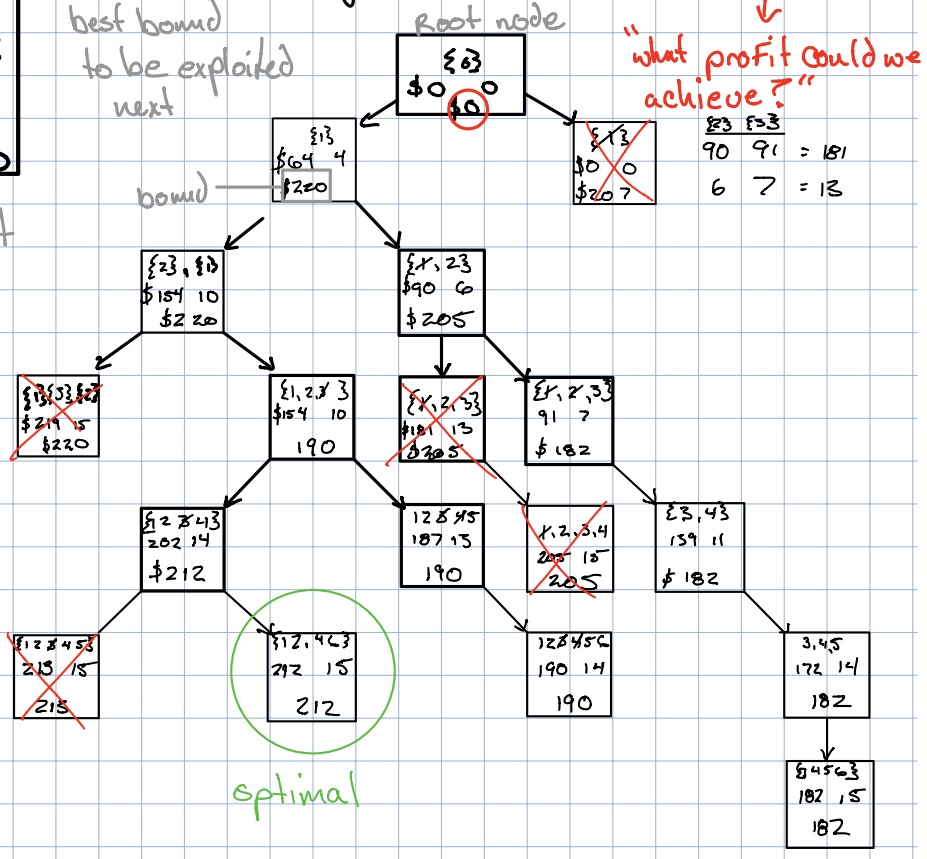
$\rightarrow P_6$

$= \$212$ profit

$w_1 + w_2 = 6 + 4 + 4 + 1$

$= 15$ lbs





x 2	3	{2,3}	{2,3,4}
$90 6	$91 7	$181 13	$205 15

$z(12) + 181$