

Dimensional Analysis for Widgets & Gadgets:

$$\text{MAX} \quad 100 \text{ W} \quad + \quad 75 \text{ G}$$

$$\frac{\text{Contribution}}{\text{Per Widget}} \text{ Widgets} \quad + \quad \frac{\text{Contribution}}{\text{Per Gadget}} \text{ Gadgets}$$

SUBJECT TO

$$2) \quad 4 \text{ W} \quad + \quad 8 \text{ G} \quad \leq 720$$

$$\frac{\text{Asmb. Hr.}}{\text{Per Widget}} \text{ Widgets} \quad + \quad \frac{\text{Asmb. Hr.}}{\text{Per Gadget}} \text{ Gadgets} \quad \leq \text{Asmb. Hr.}$$

$$3) \quad 2 \text{ W} \quad + \quad 1 \text{ G} \quad \leq 120$$

$$\frac{\text{Paint Hr.}}{\text{Per Widget}} \text{ Widgets} \quad + \quad \frac{\text{Paint Hr.}}{\text{Per Gadget}} \text{ Gadgets} \quad \leq \text{Paint Hr.}$$

OBJECTIVE FUNCTION VALUE 1) 8000.00000

Contribution: $20 * \$100 + 80 * \75

| VARIABLE | VALUE | REDUCED COST |
|----------|----------------------------|--|
| W | 20 Widgets | 0 <u>Dollars per</u> Required Widget |
| G | 80 Gadgets | 0 <u>Dollars per</u> Required Gadget |
| ROW | SLACK OR SURPLUS | DUAL PRICES |
| 2) | 0 Unused Assembly Hours | 4.166667 <u>Contribution</u> Per Asmb. Hr. |
| 3 | 0 Unused Painting Hours | 41.666667 <u>Contribution</u> Per Paint Hr |