$$g(s) = \frac{s+160}{2M} \times \left(\frac{16M}{s} + 2\right) + 3 \times \frac{s+160}{2M}$$

$$= 8 \cdot \frac{(s+160)}{s} + \frac{s+160}{1M} + \frac{3s+480}{2M}$$

$$= 8 + \frac{160\times 8}{s} + \frac{s+160}{1M} + \frac{3s+480}{2M}$$

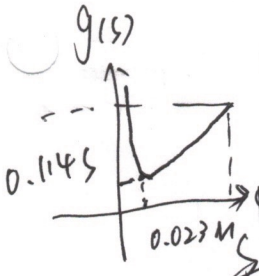
$$= 8 + \frac{160\times 8}{s} + \frac{5s+320+480}{2M}$$

$$= 8 + \frac{1280}{s} + \frac{5s+800}{2M}$$

$$= 8 + \frac{800}{2\times 10^6} + \frac{1280}{s} + \frac{5s}{2\times 10^6}$$

$s \neq 0 \Rightarrow g(s) \uparrow \Rightarrow \infty$.

$s \uparrow \to 16M \Rightarrow$ ~~$g(s)$~~



$\min g(s) \Rightarrow \frac{1280}{s} + \frac{5s}{2\times 10^6} \geq 2\sqrt{\frac{1280}{s} \times \frac{5s}{2\times 10^6}} = 2\sqrt{\frac{5\times 1280}{2\times 10^6}}$

$= 2\sqrt{3.2\times 10^{-3}}$

$\approx 2\times 0.05$

$= 0.114s.$

$5s^2 = 1280 \times 2\times 10^6$

$s^2 = 512\times 10^6$

$\Rightarrow s = 22.62\times 10^3.$

$\approx 0.023M$

$R \uparrow \Rightarrow g(s) \downarrow$.