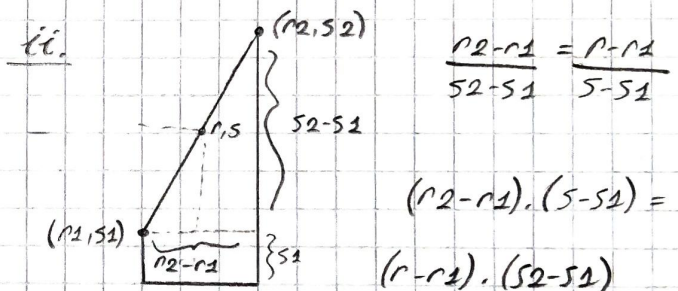


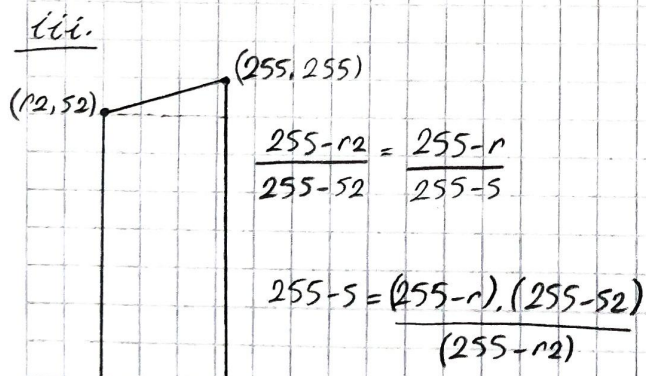
i. $\frac{r}{s} = \frac{r_1}{s_1} \Rightarrow r \cdot s_1 = s \cdot r_1$

$$s = \frac{r \cdot s_1}{r_1}$$



$$s - s_1 = \frac{(r - r_1) \cdot (s_2 - s_1)}{(r_2 - r_1)}$$

$$s = \frac{(r - r_1) \cdot (s_2 - s_1)}{(r_2 - r_1)} + s_1$$



$$s = - \left(\frac{(255 - r) \cdot (255 - s_2)}{255 - r_2} \right) + 255$$

r_k	n_k	$Pr(r_k) = n_k / M$
$r_0 = 0$	350	$350 / 3274 = 0.10$
$r_1 = 1$	125	$125 / 3274 = 0.03$
$r_2 = 2$	76	$76 / 3274 = 0.02$
$r_3 = 3$	784	$784 / 3274 = 0.23$
$r_4 = 4$	250	$250 / 3274 = 0.07$
$r_5 = 5$	664	$664 / 3274 = 0.20$
$r_6 = 6$	21	$21 / 3274 = 0.00$
$r_7 = 7$	1004	$1004 / 3274 = 0.30$

$$S_0 = T(r_0) = 7 \sum_{j=0}^0 Pr(r_j) = 7 \times 0.10 = 0.70 \rightarrow 1$$

$$S_1 = T(r_1) = 7 \sum_{j=0}^1 Pr(r_j) = 7 \times (0.10 + 0.03) = 0.91 \rightarrow 1$$

$$S_2 = 7 \times (0.10 + 0.03 + 0.02) = 1.05 \rightarrow 1$$

$$S_3 = 2.66 \rightarrow 3$$

$$S_6 = 4.76 \rightarrow 5$$

$$S_4 = 3.15 \rightarrow 3$$

$$S_7 = 6.86 \rightarrow 7$$

$$S_5 = 4.55 \rightarrow 5$$

