

### Business area high rise

At least 15 floors high                  below 23 floors high

$24 \times 120 = \$2880$  = ground floor outside window

$8 \times 102 = \$816$  = inside office on any floor

$t_n = (2880 \times 1.05^{n-1}) + 816$  = total floor cost for any floor

$s_n = \frac{2880(1-1.05^n)}{(1-1.05)} + 816 \times n$  = total weekly rent for business building. ②

$s_{15} = \$74386.26$

$s_{17} = \$88292.26$

Developer should build business building 17 floors high.

### Industrial area high rise

At least 15 floors high                  below 32 floors high

$28 \times 103 = 2884$  = ground floor outside window

$16 \times 65 = 1040$  = inside offices on any floor

$\$84$  added each floor on outside windows

$a = 3924$                    $d = 84$

$t_n = 3924 + (n-1)84$  = total floor cost for any floor

$s_n = \frac{n}{2}(2 \times 3924 + (n-1) \times 84)$  = total cost of building per week ①

$s_{15} = \$67680$      $s_{19} = \$88920$

Developer should build the industrial building 19 floors high