In this picture, the integer $2^4 5^6$ is located at the position $(a, b)$.

$40 = 2^3 5^1$ is shown; $\nu_2(40) = 3$, $\nu_5(40) = 1$.

See questions on 2nd page.
1. Write down and visualize $D(40)$.

2. Using the picture, determine $\gcd(40, 50)$ and $\text{lcm}(40, 50)$.

3. Find $n = 2^a \cdot 5^b$ such that $\text{lcm}(40, n) = 160$ and $40 + n$. 