

HW7

1. $[[4,41,2],[2,41,4],[13,2,13],[1,20,5]]$

$$\textcircled{1} \quad (0-2)^2 + (1-1)^2 = 4 \quad (1-5)^2 + (0-5)^2 = 41 \quad (0-1)^2 + (1-2)^2 = 2$$

$$(0-2)^2 + (1-1)^2 = 2 \quad (1-5)^2 + (0-5)^2 = 41 \quad (1-1)^2 + (0-2)^2 = 4$$

$$(4-2)^2 + (4-1)^2 = 13 \quad (4-5)^2 + (4-5)^2 = 2 \quad (4-1)^2 + (4-2)^2 = 13$$

$$(3-2)^2 + (1-1)^2 = 1 \quad (3-5)^2 + (1+5)^2 = 20 \quad (3-1)^2 + (1-2)^2 = 5$$

$$\begin{vmatrix} 4 & 41 & 2 \\ 2 & 41 & 4 \\ 13 & 2 & 13 \\ 1 & 20 & 5 \end{vmatrix}$$

2. $(0,2),(1,0),(2,1),(3,1)$

$$\textcircled{2} \quad (0,2), (1,0), (2,1), (3,1)$$

3. $1/2, 1/10, 1/13$

③ Transpose \rightarrow find smallest per row \rightarrow divide by smallest neighbor

$$\begin{array}{c|cccc} 2 & 4 & 13 & 5 \\ 41 & 41 & 2 & 20 \\ 4 & 2 & 13 & 1 \end{array} \quad \begin{array}{l} 2/4 = \frac{1}{2} \\ 2/20 = \frac{1}{10} \\ 1/13 = \frac{1}{13} \end{array}$$

4. $[1,0,t_x]$, $[0,1,t_y]$, $[0,0,1]$ I used chat gpt for help on this problem.

5.

Width: $\max(W1t_x + W2)$ Height: $\max(H1t_y + H2)$

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