(2) $$\frac{\frac{1}{2} \cdot K^{-1/2} \cdot L^{1/4}}{\frac{1}{4} \cdot L^{-3/4} \cdot K^{1/2}} = \frac{r}{w}$$

write this relationship as a function $K(L)$ treating r, w as parameters.

- Step 1: Note that $\frac{a \cdot b \cdot c}{d \cdot e \cdot f} = \frac{a}{d} \cdot \frac{b}{e} \cdot \frac{c}{f}$. Using this rule, we can write everything more simply as:

$$\frac{\frac{1}{2}}{\frac{1}{4}} \cdot \frac{K^{-1/2}}{K^{1/2}} \cdot \frac{L^{1/4}}{L^{-3/4}} = \frac{r}{w}$$

- Step 2: Note that $\frac{\frac{a}{b}}{\frac{c}{d}} = \frac{a \cdot d}{b \cdot c}$ and use this property to write $\frac{\frac{1}{2}}{\frac{1}{4}} = \frac{4}{2} = 2$:

$$2 \cdot \frac{K^{-1/2}}{K^{1/2}} \cdot \frac{L^{1/4}}{L^{-3/4}} = \frac{r}{w}$$

- Step 3: Using the rule $\frac{x^a}{x^b} = x^{a-b}$, we can rewrite it as:

$$2 \cdot K^{-1/2 - 1/2} \cdot L^{1/4 - (-3/4)} = \frac{r}{w}$$

$$\Rightarrow 2 \cdot K^{-1} \cdot L^{1} = \frac{r}{w}$$

- Step 4: Using the rule $x^{-a} = \frac{1}{x^a}$, we get:

$$2 \cdot \frac{L}{K} = \frac{r}{w}$$

- Step 5: Isolate K in the RHS to get:

$$\boxed{2 \cdot L \cdot \frac{w}{r} = K}$$