

lines in 3D: $\leftarrow A \longleftrightarrow B \rightarrow$

$$P = \lambda A + (1-\lambda)B$$

lines in homo coords:

$$A \rightarrow \begin{pmatrix} A & a \\ & a \end{pmatrix} = \bar{A} \quad B \rightarrow \begin{pmatrix} B & b \\ & b \end{pmatrix} = \bar{B}$$

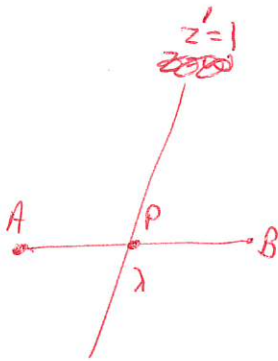
$$\boxed{\bar{P} = \gamma \bar{A} + (1-\gamma) \bar{B}} = \begin{pmatrix} \gamma a A + (1-\gamma) b B \\ \gamma a + (1-\gamma) b \end{pmatrix} \Rightarrow P = \frac{\gamma a A + (1-\gamma) b B}{\gamma a + (1-\gamma) b}$$

$$\lambda = \frac{\gamma a}{\gamma a + (1-\gamma) b}$$

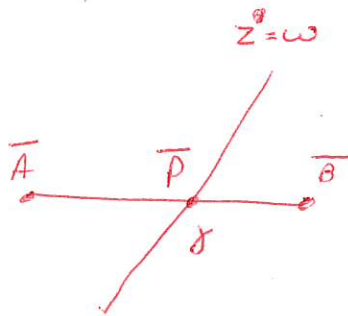
$$1-\lambda = \frac{(1-\gamma) b}{\gamma a + (1-\gamma) b}$$

$$= \lambda A + (1-\lambda) B$$

Same line! (parameterized differently)



perspective incorrect



perspective correct

$$\lambda \neq \gamma$$

different interpolation (!)

Need to implement both for project 2.