



# Floating point division

1. Normalise
2. Unsign
3. Divide mantissas
4. Subtract exponents
5. Resign
6. Normalise

$$\begin{aligned}
 & 1.0100e0100 \div 1.1111e1100 \\
 & = 1.01000e0010 \div 1.0000e(1100 - 0100) \\
 & = 1.01000e00010 \div 1.00000e1011
 \end{aligned}$$

format changed in exponent

$$= 0.11000e00010 \div (0.1111e1011 + 0.0000e1011)$$

$$\begin{array}{r}
 \cancel{1}\cancel{1}\cancel{0} \\
 - 0101 \\
 \hline
 10111 \text{ overflow}
 \end{array}$$

$$= 0.11000e00010 \div (0.1000e11000)$$

$$= 0.11000e(00010 - 11000 + 00001)$$

$$= 0.11000e \left\{ \begin{array}{r} 00010 \\ - 11000 \\ \hline +00001 \end{array} \right\}$$

$$e \left\{ \begin{array}{r} \cancel{0}0011 \\ - 11000 \\ \hline [1] 01011 \end{array} \right\}$$

carry  
no overflow

$$= \underline{0.11000e01011} \rightarrow$$