Gold-standard (test set)   FN   TP   FP   Predictions (test set)

$$Precision = \frac{TP}{TP+FP} \qquad Recall = \frac{TP}{TP+FN} \qquad F-measure = \frac{2 \cdot Precision \cdot Recall}{Precision + Recall}$$

Exercise

Gold standard

Time [NN] flies [VBZ] like [IN] AN [DT] ARROW [NN]

Prediction

Time [NN] flies [NNP] like [VB][IN] AN [DT] ARROW [NN]

Answer

Time [nn], time [nn] = 1 TP

Flies [vbz], flies [nnp] = 1 FP, 1FN

Like [vb], like [vb][in] = 1 TP, 1 FP

An [dt], an [dt] = 1 TP

Arrow [nn], arrow [nn] = 1 TP

Precision = $\frac{TP}{TP+FP} = \frac{4}{4+2} = \frac{4}{6}$ = 66.67%

Recall = $\frac{TP}{TP+FN} = \frac{4}{4+1} = \frac{4}{5}$ = 80%

F-measure = (2*4/6*4/5)/(4/6+4/5) = 8/11 = 72.73%