

Q 3.3

With pipelining

$$T_p = 4 * t + (len - 1) * t$$

pipelined  
execution  
time

With pipelining execution time reduced by sixty percent  
if we assume  $t = 1$  and  $len = 5$ .

$$I = \frac{len * 4 * t}{4 * t + (len - 1) * t} = \frac{len * 4}{4 + len - 1}$$

if we increase len

$$\lim_{len \rightarrow \infty} I \rightarrow 4$$