

## 随堂测验 1: solution

## Exercise 1

1.  $CPI = (45000 * 1 + 75000 * 2 + 8000 * 4 + 1500 * 2) / 129500 = 1.776$
2.  $MIPS \text{ 速率} = \frac{f}{CPI} = 400 / 1.776 = 225.225 MIPS$
3. 程序执行时间  $= (45000 * 1 + 75000 * 2 + 8000 * 4 + 1500 * 2) / 400 = 575 us$

## Exercise 2

1.  $T_{old} = 0.5T_{new} + 0.5T_{new} * 10 = 5.5T_{new}$   
 $Speedup = \frac{T_{old}}{T_{new}} = 5.5$
2. 原执行时间  $= 0.5T_{new} * 10 = 5T_{new}$   
比例  $= \frac{5T_{new}}{5.5T_{new}} = 10/11 = 0.91$