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▸ General Information

▼ Week 1

**Lecture 1**Lecture questions due Sep 13,  
2016 at 19:30 IST **Recitation****Problem Set 1**Homework due Sep 13, 2016 at  
19:30 IST 

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## Differences 1 Exercise

(1/1 point)

Suppose that you want to partition the following set of numbers so as to minimize the difference of the sum of the two parts  $\{1, 2, 4, 8, 16, 32\}$ . What is the difference of the best partition?

☐ 0☒ 1 ☐ 2☐ 3☐ Larger than 3

### EXPLANATION

#### Solution

The correct answer is: 1

$\{1, 2, 4, 8, 16\}, \{32\}$  results in a difference of 1.

*Remark: Interestingly,  $\sum_{i=1}^{n-1} 2^i = 2^n - 1$ . One could realize that  $2^5 = 32$ , and the property would hold for  $n = 5$ , resulting in a difference of 1.*

You have used 1 of 1 submissions

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