

Pi Mu Epsilon

Problem of the Month

September 2016

Find the sum (in base 10) of the first two numbers which both have the following properties:

- a) The base two expansion of each of the numbers has exactly three ones (and the rest zeros).
- b) The base three expansion of each of the numbers has exactly two ones (and the rest zeros).

Problem of the Month Rules:

- ⌘ Submissions must include a complete mathematical justification along with the answer.
- ⌘ Submissions may only be made by individuals or groups of two and must be dated.
- ⌘ Due date: September 28, 2016 before 5 p.m.; they may be given to Dr. Phillip Poplin or Dr. David Shoenthal.

To get your own copy, please visit:

<http://www.longwood.edu/mathematics/problemofthemonth.htm>