

December 19th

Let $f(x)$ = the total number of factors of x .

$$f (f(20) + f(36) + f(96) + f(15)) = \quad ?$$

Factors of 20: 1, 2, 4, 5, 10, 20

$$f(20) = 6$$

Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36

$$f(36) = 7$$

Factors of 96: 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96

$$f(96) = 12$$

Factors of 15: 1, 3, 15, 15

$$f(15) = 4$$

$$6+7+12+4 = 29$$

$$f(29) = \mathbf{2} \quad (\text{since 29 prime!})$$