July 28 2019 - BS

Relations β = f(τ) in OEIS for composites nonsquares

Relations **β = f(τ)**	Sequences of integers in **OEIS**	**Non-oblongs** A308874 β'(n) = τ(n)/2 – 1	**Oblongs** A002378 β'(n) = τ(n)/2 – 2
β(n) = τ(n)/2 – 2	A326378	X	β"(n) = 0 : A326378
β(n) = τ(n)/2 – 1	A326379	β"(n) = 0 : A326386	β"(n) = 1 : A326384
β(n) = τ(n)/2	A326380	β"(n) = 1 : A326387	β"(n) = 2 : A326385
β(n) = τ(n)/2 + 1	A326381	β"(n) = 2 : A326388	β"(n) = 3 in A309062 with β"(n) >= 3
β(n) = τ(n)/2 + 2	A326382	β"(n) = 3 : A326389	β"(n) = 4 in A309062 with β"(n) >= 3
β(n) = τ(n)/2 + 3	A326383	β"(n) = 4 in A326705 with β"(n) >= 4	β"(n) = 5 in A309062 with β"(n) >= 3
β(n) = τ(n)/2 + k, k >= 4	A326706	β"(n) >= 5 in A326705 with β"(n) >= 4	β"(n) >= 6 in A309062 with β"(n) >= 3

The sequences in OEIS about relations β = f(τ) are detailed in this array.

Definitions :
τ(n) is the number of divisors of the integer n: A000005.
β(n) = β'(n) + β"(n) is the number of Brazilian representations of n: A220136.
β'(n) is the number of representations of n of the form aa_b , but not 11_b.
β"(n) is the number of representations of n with at least three digits. These integers with such a representation are in the sequence A167782.

Example: 42 = 6 * 7 = 222_4 = 33_13 = 22_20.
τ(42) = 8.
β(42) = 3, β'(42) = 2, β"(42) = 1.
β'(42) = τ(42)/2 – 2 and β(42) = τ(42)/2 – 1.

Bernard Schott