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Solution to Problem 1056.

Suppose $P = 2^{p-1}(2^p - 1)$ is an even perfect number greater than 6, then $P = 1 + 9T_p$, where T_p is a triangular number with $T_p = \frac{1}{2}(8 \cdot \frac{2^{p-3}-1}{3} + 2)(8 \cdot \frac{2^{p-3}-1}{3} + 3)$.[**1**]

The digital root of any positive integer n, $dr(n)$, is given by

$$dr(n) = 1 + [(n-1) \pmod 9] = \begin{cases} n \pmod 9, & n \not\equiv 0 \pmod 9 \\ 9, & n \equiv 0 \pmod 9 \end{cases}$$

It follows immediately that $dr(P) = 1 + 9T_p \pmod 9 = 1$.

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References:

1. Eaton, CF. Problem 1482, *Mathematics Magazine*, **69**, p. 308; 1996.