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The line $y = mx + 4$ passes through $(3, \log_2 p)$, $(\log_2 p, 4)$.

Find p.

$$\log_2 p = 3m + 4 \Rightarrow p = 2^{3m+4} \longrightarrow (1)$$

$$4 = m \log_2 p + 4 \longrightarrow (2)$$

$$(1), (2) \Rightarrow 4 = m \log_2 2^{3m+4} + 4$$

$$= m(3m + 4) + 4$$

$$\Rightarrow m = 0 \text{ or } m = -4/3$$

$$(1) \Rightarrow p = 16 \text{ or } p = 1$$