1. $2^n = x, 6^n = y$ 라 할 때, $(2^n + 2^{n+1}) \times 3^{n-1}$ 을 x, y 를 사용한 식으로 나타내어라.

▶ 답 :

▷ 정답 : y

해설

$$6^n = (2 \times 3)^n = 2^n \times 3^n, \ 3^n = \frac{6^n}{2^n} = \frac{y}{x}$$

$$2^n + 2^{n+1} = 2^n + 2 \times 2^n = (1 + 2) \times 2^n = 3 \times 2^n$$

$$\therefore \ (2^n + 2^{n+1}) \times 3^{n-1} = (3 \times 2^n) \times 3^{n-1}$$

$$= 3^n \times 2^n$$

$$= \frac{y}{x} \times x = y$$