

$$d) \frac{4^{n-1} + 2^{2n-3}}{2^{2n+1} - 2^{2n-1}}$$

$$\frac{2^{2n-2} + 2^{2n-3}}{2^{2n+1} - 2^{2n-1}}$$

$$\frac{2^{2n}(2^{-2} + 2^{-3})}{2^{2n}(2^1 - 2^{-1})}$$

$$\frac{3}{8} \times \frac{2}{3} = \frac{1}{4}$$

$$e) \frac{3^n + 3^{n-2}}{3^{n-1}}$$

$$\frac{3^n(1 + 3^{-2})}{3^n(3^{-1})}$$

$$\frac{10}{9} \times \frac{3}{1} = \frac{10}{3}$$

$$f) \frac{2^n \cdot 8^{n+2} \cdot 4^{-3n}}{2^{-2n}}$$

$$\frac{2^n \cdot 2^{3n+6} \cdot 2^{-6n}}{2^{-2n}}$$

$$\frac{2^{n+3n+6-6n}}{2^{-2n}}$$

$$\frac{\cancel{2^{-2n}} \cdot 2^6}{\cancel{2^{-2n}}} = 64$$

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