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number of sequences

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 these two look more like the third one.

Let's make

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$$\binom{10}{2} \cdot (0.5)^2 \cdot (1 - 0.5)^8$$



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P(
$$k$$
 heads on 10 flips) = (0.5) $\cdot (0.5)$ $\cdot (1-0.5)$



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P(*k* heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^{\square} \cdot (1 - 0.5)^{\square}$$



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P(*k* heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{10 - k}$$



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P(k heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{10 - k}$$

$$P(k \text{ heads on } n \text{ flips}) =$$



P(k heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{10 - k}$$

P(k heads on n flips) =
$$(0.5)$$
 $\cdot (0.5)$ $\cdot (1-0.5)$



P(k heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{10 - k}$$

P(k heads on n flips) =
$$\binom{n}{k} \cdot (0.5) \square \cdot (1 - 0.5) \square$$



P(k heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{10 - k}$$

P(k heads on n flips) =
$$\binom{n}{k} \cdot (0.5)^k \cdot (1 - 0.5)$$



P(k heads on 10 flips) =
$$\binom{10}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{10 - k}$$

P(*k* heads on *n* flips) =
$$\binom{n}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{n-k}$$



P(k heads on n flips) = $\binom{n}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{n-k}$



P(*k* heads on *n* flips) =
$$\binom{n}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{n-k}$$



P(k heads on n flips) =
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P(k heads on n flips) =
$$\binom{n}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{n-k}$$

P(k heads on n flips) =
$$\binom{n}{k} \cdot (0.7)^k \cdot (1 - 0.7)^{n-k}$$



P(*k* heads on *n* flips) =
$$\binom{n}{k} \cdot (0.5)^k \cdot (1 - 0.5)^{n-k}$$

P(k heads on n flips) =
$$\binom{n}{k} \cdot (0.7)^k \cdot (1 - 0.7)^{n-k}$$

More generally,

P(k heads on n flips) =
$$\binom{n}{k} \cdot P(H)^k \cdot (1 - P(H))^{n-k}$$

