

$$1. \quad \binom{4}{2} \cdot 26 = 156 \quad 156 - 6 = \boxed{150}$$

\swarrow stars & bars \nwarrow string overlaps
 11st

$$2. \quad 5 \cdot 5 \cdot 4 = \boxed{100}$$

$$3. \quad 1) \quad 21 \text{ Pokemon} \quad w=7 \quad f=5 \quad o=9 \quad r=3$$

$$\binom{21}{3} - \binom{5}{2} \cdot 16 - \binom{5}{3} - \binom{7}{2} \cdot 14 - \binom{7}{3} =$$

\uparrow \uparrow \uparrow \uparrow
 2f 3f 2w 3w

$$1330 - 160 - 10 - 294 - 35 = \boxed{831}$$

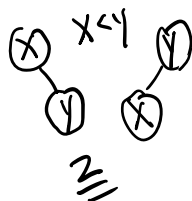
$$2) \quad ||***** \quad \binom{12}{3} = \boxed{66}$$

$$4. \quad |||***** \quad \binom{9}{6} - 4 = \boxed{80}$$

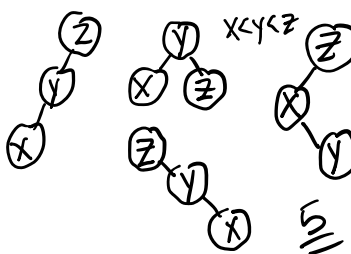
cases where 1 printer prints all 6 copies

5.

$n=2$



$n=3$



$n=4$



$$5 \cdot 4 = 20$$

$$20 - 6 = \underline{\underline{14}}$$

\uparrow overlaps

$$\begin{aligned}
 \text{BST}(13) &= \text{BST}(8-1) \cdot \text{BST}(13-8) \\
 &= \text{BST}(7) \cdot \text{BST}(5)
 \end{aligned}$$

$14 \cdot 3 = 42$

$\uparrow \quad \quad \quad \uparrow$
 $42 \cdot (42 \cdot 14) = 24696$

$$= 1037232$$