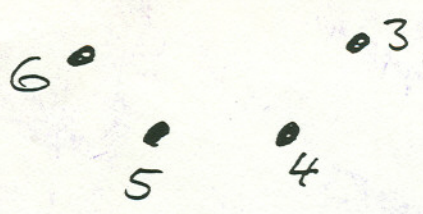
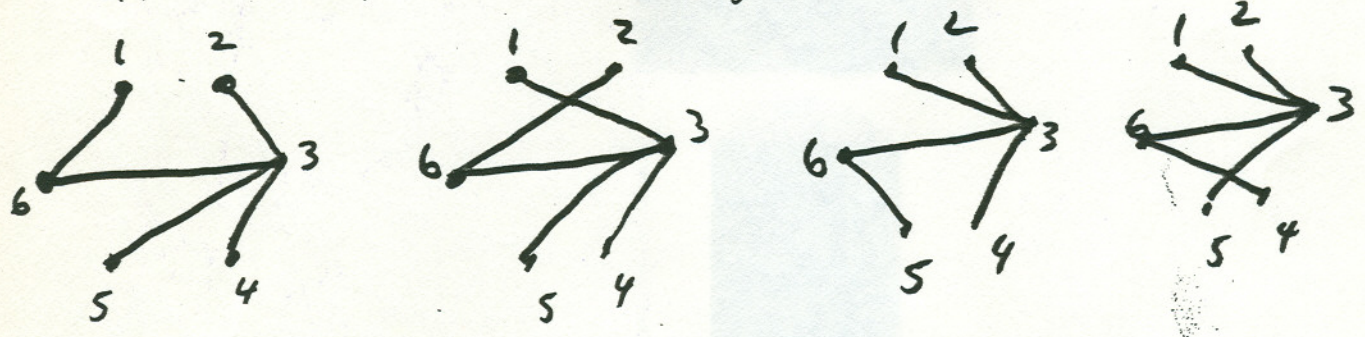


(11) Let 1, 2, 3, 4, 5, 6 be labeled vertices in a tree.



Draw all trees which have degree 4 at vertex 3, degree 2 at vertex 6 and degree 1 elsewhere.



(12) Solve the recurrence relation $a_n = 4a_{n-1} - 4a_{n-2}$

$a_0 = 2$ and $a_1 = 10$.

$x^2 - 4x + 4 = 0$

$(x - 2)^2 = 0$

$a_n = \lambda_1 2^n + \lambda_2 n 2^n$

$2 = \lambda_1 + 0$

$10 = 2\lambda_1 + 2\lambda_2$

$3 = \lambda_2$

$a_n = 2 \cdot 2^n + 3n 2^n$