

Exempel på tentamensuppgifter i LMA100, del 1
Diskret matematik, förslag till svar

1. (a) $7!/2!3! = 420$, (b) 250
2. 30644
3. $\binom{70}{2} = 2415$
4. (a) $\binom{52}{5}$, (b) $\binom{13}{5}4^5$, (c) $\binom{13}{1}\binom{4}{2}\binom{12}{3}4^3$
5. $15!/(5!)^3 = 756756$
6. $\binom{28}{4} - \binom{5}{1}\binom{20}{4} + \binom{5}{2}\binom{12}{4} - \binom{5}{3}$
7. 4^{n-1}
9. $8!/2^4 \cdot \binom{7}{2}$
10. 100^{300}
12. 26
13. $\binom{9}{5}\binom{12}{5} = 99792$
14. 6
15. (a) 28, (b) $7\binom{7}{2} = 147$
16. (a) 2^n , (c) $\frac{1}{3}(2^{n+1} + (-1)^n)$
17. 44
18. 6688
19. (a) $L_n = \left(\frac{1+\sqrt{5}}{2}\right)^n + \left(\frac{1-\sqrt{5}}{2}\right)^n$
20. $2^8 \cdot 12^9$