** **
Zadania PDF.

**Źródło zadań w texu.**

% File: mecz_mat.tex % Created: Fri Dec 17 01:00 PM 2010 C % Last Change: Fri Dec 17 01:00 PM 2010 C documentclass[10pt]{article} usepackage{amssymb} usepackage{amsmath} textwidth 16cm textheight 24cm oddsidemargin 0cm topmargin 0pt headheight 0pt headsep 0pt usepackage[polish]{babel} usepackage[koi8-r,utf8]{inputenc} usepackage[T2A]{fontenc} usepackage{polski} usepackage{import} usepackage{graphicx} usepackage{CJKutf8} usepackage{pinyin} usepackage[labelsep=none,figurename=]{caption} %usepackage{MnSymbol} % ---------- vfuzz4pt % Don't report over-full v-boxes if over-edge is small hfuzz4pt % Don't report over-full h-boxes if over-edge is small % THEOREMS ---------- newtheorem{thm}{Twierdzenie}[section] newtheorem{cor}[thm]{Wniosek} newtheorem{lem}[thm]{Lemat} newtheorem{defn}[thm]{Definicja} newtheorem{tozs}[thm]{Tożsamość} newtheorem{hyp}[thm]{Hipoteza} newtheorem{useless}[thm]{} newenvironment{proof}[1][Dowód. ]{noindenttextsc{#1}} {nolinebreak[4]hfill$blacksquare$\par} newenvironment{sol}[1][Rozwiązanie. ]{ noindenttextsc{#1}} {hfillpar} newenvironment{problem}{noindenttextsc{Zadanie}\} {hfillpar} defdeg{^{circ}} defsource#1{\Źródło: #1} subimport{../}{style} %include{style} begin{document} large renewcommand{thefigure}{} begin{figure} section{Powodzenia!} end{figure} %subsection{międzynarodowe} begin{enumerate} item Найти наибольшее количество разных перестановок из ${sigma, sigma^2, sigma^3, dots}$, если $sigma$~--- перестановка 12-элементного множества ($sigma^k$ это $k$--кратная композиция $sigma$). item begin{CJK}{UTF8}{gbsn} 𠀀𠀁 end{CJK} $frac{2}{1cdot 2cdot 3} + frac{2}{2cdot 3cdot 4} +dots+ frac{2}{2009cdot 2010cdot 2011}$. item Bestem alle positive heltal $n$, således at $5^{(n-1)!} - 1$ er delelig med $n$. item Prove that in any triangle the following inequality holds: $pR geq 2S$, where $p, R, S$ are respectively the half of circumference of the triangle (the semiperimeter), the radius of the circumcircle and the area of the

triangle. item Es wurde solches konvexe Sechseck $ABCDEF$ gegeben, dass für allen Vierecken $ABCD$, $CDEF$, $EFAB$ ein Umkreis existiert. Zeigen, dass für das Sechseck $ABCDEF$ auch ein Umkreis existiert. item Sia $f(x)$ un polinomio a~coefficienti interi tale che $f(3) = 5$. Se un intero $n$ ha la propriet`a che $f(n^3) = 15$, quali sono i~possibili valori di $n$? end{enumerate} end{document}