DIDACTICS OF MATHEMATICS

12(16)

The Publishing House
of Wrocław University of Economics
Wrocław 2015

Reviewers cooperating with the journal
Maria Balcerowicz-Szkutnik, Giovanna Carcano, Igor Dubina,
Ewa Dziwok, Salvatore Federico, Marian Matłoka,
Włodzimierz Odyniec, Anatol Pilawski,
Tadeusz Stanisz, Achille Vernizzi, Henryk Zawadzki

Copy-editing
Elżbieta Macauley, Tim Macauley

Proof reading
Marcin Orszulak

Typesetting
Elżbieta Szlachcic

Cover design
Robert Mazurczyk

Front cover painting: W. Tank, Sower
(private collection)

This publication is available at: www.journal.ue.wroc.pl and www.ibuk.pl
BazEkon, http://kangur.uek.krakow.pl/bazy_ae/bazekon/nowy/advanced.php Dolnośląska Biblioteka Cyfrowa, http://www.dbc.wroc.pl/
The Central European Journal of Social Sciences and Humanities, http://cejsh.icm.edu.pl/
Ebsco, https://www.ebscohost.com/

Information on submitting and reviewing papers is available on
the Publishing House's websites
www.dm.ue.wroc.pl; www.wydawnictwo.ue.wroc.pl

The publication is distributed under the Creative Commons Attribution 3.0
Attribution-NonCommercial-NoDerivs CC BY-NC-ND

© Copyright by Wrocław University of Economics
Wrocław 2015

ISSN 1733-7941
e-ISSN 2450-1123

The original version: printed
Publication may be ordered in Publishing House tel./
fax 71 36-80-602; e-mail: econbook@ue.wroc.pl
www.ksiegarnia.ue.wroc.pl
Printing: TOTEM

TABLE OF CONTENTS

Marek Biernacki
Elements of differential equations in the mathematics course for students of economics 5

Marek Biernacki, Andrzej Misztal
Is an average Polish student proficient in solving difficult and new problems? 11

Piotr Dniestrzański
The Gini coefficient as a measure of disproportionality 25

Renata Dudzińska-Baryła, Donata Kopańska-Bródka, Ewa Michalska
Software tools in didactics of mathematics 35

Ewa Dziwok
The implementation of a double degree in Poland and its consequences for teaching quantitative courses 47

Wiktor Ejsmont
Remarks on Wigner's semicircle law 55

Barbara Fura, Marek Fura
Optimization of consumer preferences – an example 61

Donata Kopańska-Bródka, Renata Dudzińska-Baryła, Ewa Michalska
An evaluation of the selected mathematical competence of the first-year students of economic studies 69

Arkadiusz Maciuk, Antoni Smoluk
Two proofs of Stokes' theorem in new clothes 85

Paweł Prysak
Mathematical preparation of first-year students of applied informatics for studies at the university of economics 93

Leszek Rudak
"At 100 percent" assessment 111

Leszek Rudak, Mariusz Szałański
Small Project Based Learning in a course of financial mathematics. A case study 117

Anna Szymańska, Elżbieta Zalewska
E-learning as a tool to improve the quality of education in quantitative subjects 125

*

Antoni Smoluk, Elżbieta Szlachcic
Doktor inżynier Jerzy Sacała (1962-2015) 135