

LITERATUURLYS

- ADI, H. & PULOS, S. 1980. Individual differences and formal operational performance of college students. *Journal for research in mathematics education*, 11 : 150 - 156.
- AIKEN, L.R. 1976. Update on attitudes and other affective variables in learning mathematics. *Review of educational research*, 46 : 293 - 311.
- AIKEN, L.R. Jr. 1972. Research on attitudes toward mathematics. *The arithmetic teacher*, 19 : 229 - 234.
- AIKEN, L.R. Jr. 1970(a). Attitudes toward mathematics. *Review of educational research*, 40 : 551 - 596.
- AIKEN, L.R. Jr. 1970(b). Nonintellective variables and mathematics achievement: directions for research. *Journal of school psychology*, 8 : 28 - 36.
- ANASTASI, A. 1976. *Psychological testing*. 4th ed. New York: Macmillan.
- ANDERSON, G.R., WEAVER, J.D. & WOLF, C.T. 1965. Large group instruction in elementary college mathematics. *Mathematical educational notes*, 72 : 179 - 181.
- ANDERSON, J. & WHITTEMORE, R.G. 1967. Predictive utility of certain criteria for advanced freshman mathematics courses. *The mathematics teacher*, 60 : 619 - 620.
- ANON. 1986. Mathematical genius: in the hormones? *New scientist*, 10 : May, 29.
- ANSLEY, T.N. & FORSYTH, R.A. 1983. Relationship of elementary and secondary school achievement test scores to college performance. *Educational and psychological measurement*, 43 : 1103 - 1112.
- ARMSTRONG, J.M. 1981. Achievement and participation of women in mathematics: results of two national surveys. *Journal for research in mathematics education*, 12 : 356 - 372.
- ARMSTRONG, J.M. & PRICE, R.A. 1982. Correlates and predictors of women's mathematics participation. *Journal for research in mathematics education*, 13 : 99 - 109.
- ARNOLD, B.H. 1962. *Logic and Boolean algebra*. Englewood-Cliffs, N.J.: Prentice-Hall.
- AYERS, J.B. & ROHR, M.E. 1972. Prediction of quality point averages from personality variables. *Educational and psychological measurement*, 32 : 491 - 494.
- BAIRD, L.L. 1984. Predicting predictability: the influence of student and institutional characteristics on the prediction of grades. *Research in higher education*, 21 : 261 - 279.

- BANRETI-FUCHS, K.M. 1975. Attitudinal, situational and mental health correlates of academic achievement at the undergraduate university level. *British journal of educational psychology*, 45 : 227 - 231.
- BANRETI-FUCHS, K.M. 1972. Attitudinal and situational correlates of academic achievement in young adolescents. *Canadian journal of behavioral sciences*, 4 : 156 - 164.
- BEAN, A.G. & COVERT, R.W. 1973. Prediction of college persistence, withdrawal and academic dismissal: a discriminant analysis. *Educational and psychological measurement*, 33 : 407 - 411.
- BEHR, A.L. 1985. The senior certificate examination as a predictor of university success. *South African journal of education*, 5 : 107 - 112.
- BEJAR, I.I. & BLEW, E.O. 1981. Grade inflation and the validity of the Scholastic Aptitude Test. *American educational research journal*, 18 : 143 - 156.
- BENBOW, C.P. & STANLEY, J.C. 1980. Sex differences in mathematical ability: fact or artifact? *Science*, 210 : 1262 - 1264.
- BENBOW, C.P. & STANLEY, J.C. 1982. Consequences in high school and college of sex differences in mathematical reasoning ability: a longitudinal perspective. *American educational research journal*, 19 : 598 - 622.
- BETZ, N.E. 1978. Prevalence, distribution, and correlates of math anxiety in college students. *Journal of counseling psychology*, 25 : 441 - 448.
- BLOOM, B.S. 1976. *Human characteristics and school learning*. New York: McGraw-Hill.
- BOLI, J., ALLEN, M.L. & PAYNE, A. 1985. High-ability women and men in undergraduate mathematics and chemistry courses. *American educational research journal*, 22 : 605 - 626.
- BOWRAN, A.P. 1965. *A Boolean algebra*. London: MacMillan.
- BOYCE, R.W. 1964. The prediction of achievement in college algebra. *Educational and psychological measurement*, 24 : 419 - 420.
- BRACEY, G.W. 1980. The SAT, college admissions, and the concept of talent: unexamined myths, unexplained perceptions, needed explorations. *Phi delta kappan*, 62 : 197 - 199.
- BRASCH, B.E. 1972. An evaluation of some predictors of student success in calculus. (In *Dissertation Abstracts International*, 33, 2729A.)
- BRIDGEMAN, B. 1982. Comparative validity of the College Board Scholastic Aptitude Test-Mathematics and the Descriptive Tests of Mathematics Skills for predicting performance in college mathematics courses. *Educational and psychological measurement*, 42 : 361 - 367.
- BROMLEY, E. & GATHERCOLE, C.E. 1972. Boolean prediction analysis: a new method of prediction index construction. *British journal of criminology*, 12 : 287 - 292.

- BROWN, F.G. 1976. Principles of educational and psychological testing. New York: Holt, Rinehart & Winston.
- BRUSH, L.R. 1978. A validation study of the Mathematics Anxiety Rating Scale (MARS). *Educational and psychological measurement*, 38 : 485 - 490.
- BRUWER, W.J. 1973. Motivering, houding en studiemetode as bepalende faktore in akademiese prestasie. Potchefstroom. (Proefskrif (D.Phil.) - PU vir CHO.)
- BURNHAM, P.S. & HEWITT, B.A. 1971. Advanced placement scores: their predictive validity. *Educational and psychological measurement*, 31 : 939 - 945.
- CALLAHAN, W.J. 1971. Adolescent attitudes toward mathematics. *The mathematics teacher*, 64 : 751 - 755.
- CALHOUN, J.F. & ACOCELLA, J.R. 1978. Psychology of adjustment and human relationships. New York: Random House.
- CARLSON, S.L. 1970. Differences in aptitude, previous achievement, and non intellectual traits (personality, values, interest, and attitude toward mathematics) of freshmen mathematics majors and transfers from the mathematics major at the University of Northern Colorado. (Doktorale proefskrif, University of Northern Colorado) (In *Dissertation Abstracts International*, 31, 3768A.) (University Microfilms No. 71-4161).
- CENTRA, J.A. & ROCK, D. 1971. College environments and student academic achievement. *American educational research journal*, 8 : 623 - 634.
- CHISSOM, B.S. & LANIER, D. 1975. Prediction of first quarter freshman GPA using SAT scores and high school grades. *Educational and psychological measurement*, 35 : 461 - 463.
- CHOROSZY, M., POWERS, S. & DOUGLAS, P. 1984. The factorial validity of the Mathematics Attribution Scale. *Educational and psychological measurement*, 44 : 739 - 742.
- CHRISTIAEN, H. & VAN DEYNSE, N. 1983. Is de kans op slagen in de eerste kandidatuur burgerlijk ingenieur voorspelbaar? *Pedagogisch tijdschrift, forum voor opvoedkunde*, 3 : 157 - 167.
- CLUTE, P.S. 1984. Mathematics anxiety, instructional method, and achievement in a survey course in college mathematics. *Journal for research in mathematics education*, 15 : 50 - 58.
- COETZEE, C.H. 1977. Angs as moderatorveranderlike by die voorspelling van akademiese prestasie. Port Elizabeth. (Verhandeling (M.A.) - UPE.)
- COHEN, H.D., HILLMAN, D.F., AGNE, R.M. 1978. Cognitive level and college physics achievement. *American journal of physics*, 46 : 1026 - 1029.

- COHEN, J. 1977. *Statistical power analysis for behavioral sciences*. (Revised ed.). Orlando: Academic Press.
- COMBRINK, J.C. 1970. 'n Ondersoek na die verband tussen sekere aspekte van die verhoudingslewe en die akademiese prestasie van universiteitstudiante. Potchefstroom. (Verhandeling (M.A.) - PU vir CHO.)
- COWELL, M.D. & ENTWISTLE, N.J. 1971. The relationship between personality, study attitudes and academic performance in a technical college. *British journal of educational psychology*, 41 : 85 - 90.
- CRAMER, C.F. 1974. A study of achievement levels of Nebraska high school seniors on a test designed to measure mathematical competencies. (In *Dissertation Abstracts International*, 35, 5955A.)
- CRISTANTIELLO, P.D. 1962. Attitude toward mathematics and the predictive validity of a measure of quantitative aptitude. *The journal of educational research*, 55 : 184 - 188.
- DALE, R.R. & MILLER, P.M. 1972. The urban or rural background of first year university students in relation to their academic performance. *British journal of educational psychology*, 42 : 152 - 158.
- DALTON, S. 1976. A decline in the predictive validity of the SAT and high school achievement. *Educational and psychological measurement*, 36 : 445 - 448.
- DEBOER, G.E. 1981. The direct and indirect contributions of a series of intellectual and non-intellectual student attributes to the prediction of high school and college achievement: a path analytic model. *Educational and psychological measurement*, 41 : 487 - 494.
- DESIDERATO, O. & KOSKINEN, P. 1969. Anxiety, study habits, and academic achievement. *Journal of counseling psychology*, 16 : 162 - 165.
- DE ROME, E. & LEWIN, T. 1984. Predicting persistence at university from information obtained at intake. *Higher education*, 13 : 49 - 66.
- DEW, K.M.H., GALASSI, J.P. & GALASSI, M.D. 1983. Mathematics anxiety: some basic issues. *Journal of counseling psychology*, 30 : 443 - 446.
- DE WET, J.J., MONTEITH, J.L. de K., STEYN, H.S. & VENTER, P.A. 1981. *Navorsingsmetodes in die opvoedkunde*. Durban: Butterworth.
- DIPPELHOFER-STIEM, B. 1986. How to measure university environment? Methodological implications and some empirical findings. *Higher education*, 15 : 475 - 495.
- DOBLIN, S.A. 1978. MAPP: A mathematics placement program. *Educational and psychological measurement*, 38 : 831 - 833.
- DUMONT, R.G. & TROELSTRUP, R.L. 1981. Measures and predictors of educational growth with four years of college. *Research in higher education*, 14 : 31 - 47.

- DUNHAM, R.B. 1973. Achievement motivation as predictive of academic performance: a multivariate analysis. *The journal of educational research*, 67 : 70 - 72.
- DUNKIN, M.J. 1978. Student characteristics, classroom processes and student achievement. *Journal of educational psychology*, 70 : 998 - 1009.
- DUNN, J.E. 1966. A study of the University of Arkansas mathematics entrance exam as a placement device. *Journal of experimental education*, 34 : 62 - 68.
- DU PLESSIS, S.J.P. 1988. Verslag oor akademiese en verwante aangeleenthede van veral voorgraadse studente aan die PU vir CHO, deel II. Potchefstroom: PU vir CHO, Buro vir Universiteitsonderwys.
- EASTMAN, P.M. 1975. Replication studies: why so few? *Journal for research in mathematics education*, 6 : 67 - 68.
- EDGE, O.P. & FRIEDBERG, S.H. 1984. Factors affecting achievement in the first course in calculus. *Journal of experimental education*, 52 : 136-140.
- EDWARDS, J.E. & WATERS, L.K. 1982. Involvement, ability, performance and satisfaction as predictors of college attrition. *Educational and psychological measurement*, 42 : 1149 - 1152.
- EDWARDS, R.R. 1972(b). The prediction of success in remedial mathematics courses in the public community junior college. *The journal of educational research*, 66 : 157 - 160.
- ENTWISTLE, N.J. 1972. Personality and academic attainment. *British journal of educational psychology*, 42 : 137 - 151.
- ENTWISTLE, N.J., NISBET, J., ENTWISTLE, D. & COWELL, M.D. 1971. The academic performance of students. 1 - Prediction from scales of motivation and study methods. *British journal of educational psychology*, 41 : 258 - 267.
- ENTWISTLE, N.J. & BRENNAN, T. 1971. The academic performance of students. 2 - Types of successful students. *British journal of educational psychology*, 41 : 268 - 276.
- ENTWISTLE, N.J. & ENTWISTLE, D. 1970. The relationships between personality, study methods and academic performance. *British journal of educational psychology*, 40 : 132 - 143.
- ENTWISTLE, N.J. & WILSON, J.D. 1970. Personality, study methods and academic performance. *Universities quarterly*, 24 : 147 - 156.
- ERNEST, J. 1976. Mathematics and sex. *American mathematical monthly*, 83 : 595 - 614.
- ETAUGH, A.F., ETAUGH, C.F., & HURD, D.E. 1972. Reliability of college grades and grade point averages: some implications for prediction of academic performance. *Educational and psychological measurement*, 32 : 1045 - 1050.

- ETHINGTON, C.A. & WOLFLE, L.M. 1986. A structural model of mathematics achievement for men and women. *American educational research journal*, 23 : 65 - 75.
- EYSENCK, H.J. & EYSENCK, M.W. 1985. Personality and individual differences : a natural science approach. New York: Plenum Press.
- EYSENCK, H.J. 1972. Personality and attainment: an application of psychological principles to educational objectives. *Higher education*, 1 : 39 - 52.
- FARVER, A.S., SEDLACEK, W.E. & BROOKS, G.C. 1975. Longitudinal predictions of university grades for blacks and whites. *Measurement and evaluation in guidance*, 7 : 243 - 250.
- FEIJ, J.A. 1976. Field independence, impulsiveness, high school training, and academic achievement. *Journal of educational psychology*, 68 : 793 - 799.
- FENNEMA, E. 1980. Women and girls in mathematics: equity in mathematics education. *Educational studies in mathematics*, 10 : 389 - 401.
- FENNEMA, E. 1974. Mathematics learning and the sexes: a review. *Journal for research in mathematics education*, 5 : 126 - 139.
- FENNEMA, E.H. & SHERMAN, J.A. 1978. Sex-related differences in mathematics achievement and related factors: a further study. *Journal for research in mathematics education*, 9 : 189 - 203.
- FENNEMA, E. & SHERMAN, J. 1977. Sex-related differences in mathematics achievement, spatial visualization and affective factors. *American educational research journal*, 14 : 51 - 71.
- FENNEMAN, G.C. 1973. The validity of previous experience, aptitude, and attitude toward mathematics as predictors of achievement in freshman mathematics at Wartburg College. (In *Dissertation Abstracts International*, 34, 7100 - 7101A.) (University Microfilms No. 74-9749).
- FINCHER, C. 1974. Is the SAT worth its salt? An evaluation of the use of the Scholastic Aptitude Test in the university system of Georgia over a thirteen-year period. *Review of educational research*, 44 : 293 - 305.
- FLANAGAN, S.S. 1969. The effects of SMSG texts on students' first semester grade in college mathematics. *School Science and Mathematics*, 69 : 817 - 820.
- FOUCHÉ, F.A. & ALBERTS, N.F. 1971. Handleiding vir die 19-veld-belangstellingsvraelys (19-VBV). Pretoria: Raad vir Geesteswetenskaplike Navorsing.
- FOUCHÉ, F.A. & VERWEY, F.A. 1978. Handleiding vir die Senior aanlegtoetse 1978 - uitgawe (SAT78). Pretoria: Raad vir Geesteswetenskaplike Navorsing.
- FOX, L.H. 1980. *The problem of Women and Mathematics*, New York: Ford Foundation.

- FOX, L.H., BRODY, L. & TOBIN, D. 1980. *Women and the mathematical mystique*, Baltimore: Johns Hopkins University Press.
- FRARY, R.B. & LING, J.L. 1983. A factor-analytic study of mathematics anxiety. *Educational and psychological measurement*, 43 : 985 - 993.
- FUJITA, G.Y. & O'REILLY, J.P. 1970. A two-stage sequential strategy in the placement of students in an undergraduate mathematics curriculum. *Journal for research in mathematics education*, 1 : 241 - 250.
- FULKERSON, K.F., GALASSI, J.P. & GALASSI, M.D. 1984. Relation between cognitions and performance in math anxious students: a failure of cognitive theory? *Journal of counseling psychology*, 31 : 376 - 382.
- GALASSI, J.P., FRIERSON, H.T. & SIEGEL, R.G. 1984. Cognitions, test anxiety, and test performance: a closer look. *Journal of consulting and clinical psychology*, 52(2) : 319 - 320.
- GALLESSICH, J. 1970. An investigation of correlates of academic success of freshman engineering students. *Journal of counseling psychology*, 17 : 173 - 176.
- GOLDMAN, R.D. & HEWITT, B.N. 1976. The Scholastic Aptitude Test "explains" why college men major in science more often than college women. *Journal of counseling psychology*, 23 : 50 - 54.
- GOLDMAN, R.D., SCHMIDT, D.E., HEWITT, B.N. & FISHER, R. 1974. Grading practices in different major fields. *American educational research journal*, 11 : 343 - 357.
- GOLDMAN, R.D. & SLAUGHTER, R.E. 1976. Why college grade point average is difficult to predict. *Journal of educational psychology*, 68 : 9 - 14.
- GOUGEON, D. 1984-85. CEEB SAT mathematics scores and their correlation with college performance in math. *Educational research quarterly*, 9 : 8 - 11.
- GOUGH, H.G. & LANNING, K. 1986. Predicting grades in college from the California Psychological Inventory. *Educational and psychological measurement*, 46 : 205 - 213.
- GOUWS, L.A., LOUW, D.A., MEYER, W.F. & PLUG, C. 1979. *Psigologie woordeboek*. Pretoria: McGraw-Hill.
- GUSSETT, J.C. 1974. College Entrance Examination Board Scholastic Aptitude Test scores as a predictor for college freshman mathematics grades. *Educational and psychological measurement*, 34 : 953 - 955.
- HAKSTIAN, A.R. & BENNET, R.W. 1977. Validity studies using the Comprehensive Ability Battery (CAB): I. Academic achievement criteria. *Educational and psychological measurement*, 37 : 425 - 437.
- HAKSTIAN, A.R. & BENNET, R.W. 1978. Validity studies using the Comprehensive Ability Battery (CAB): II. Relationships with the DAT and GATB. *Educational and psychological measurement*, 38 : 1003 - 1015.

HAKSTIAN, A.R. & GALE, C.A. 1979. Validity studies using the Comprehensive Ability Battery (CAB): III. Performance in conjunction with personality and motivational traits. *Educational and psychological measurement*, 39 : 389 - 400.

HAKSTIAN, A.R. & WOOLSEY, L.K. 1985. Validity studies using the Comprehensive Ability Battery (CAB): IV. Predicting achievement at the university level. *Educational and psychological measurement*, 45 : 329 - 341.

HALEY, J.V. & LERNER, M.J. 1972. The characteristics and performance of medical students during preclinical training. *Journal of medical education*, 47 : 446 - 452.

HALPIN, G., HALPIN, G., & SCHAER, B.B. 1981. Relative effectiveness of the California Achievement Tests in comparison with the ACT assessment, College Board Scholastic Aptitude Test and high school grade point average in predicting college grade point average. *Educational and psychological measurement*, 41 : 821 - 827.

HAMILTON, V. 1970. Non-cognitive factors in university students' examination performance. *British journal of psychology*, 61 : 229 - 241.

HARGADON, F. 1981. Tests and college admissions. *American psychologist*, 36 : 1112 - 1119.

HARMAN, H.H. 1976. *Modern factor analysis*. 3rd. ed. revised. Chicago: The University of Chicago Press.

HARPER, F.B.W. 1971. Specific anxiety theory and the Mandler-Sarason Test Anxiety Questionnaire. *Educational and psychological measurement*, 31 : 1011 - 1014.

HAYES, S. 1974. Pressures contributing to the decision to dropout: comparison between dropouts and persistors. *Australian journal of education*, 18 : 138 - 148.

HENDEL, D.D. 1985. Effects of individualized and structured college curricula on students' performance and satisfaction. *American educational research journal*, 22 : 117 - 122.

HILLS, J.R. 1964. Prediction of college grades for all public colleges of a state. *Journal of educational measurement*, 1 : 155 - 159.

HILTON, T.L. & BERGLUND, G.W. 1974. Sex differences in mathematics achievement - a longitudinal study. *The journal of educational research*, 67 : 231 - 237.

HOARE, D.E. & YEAMAN, E.J. 1971. Identifying and interviewing science students at risk of failure. *Universities quarterly*, 25 : 471 - 483.

HORN, J.M., TURNER, R.G. & DAVIS, L.S. 1975. Personality differences between both intended and actual social sciences and engineering majors. *British journal of educational psychology*, 45 : 293 - 298.

- HOWLETT, J.L. 1969. A study of placement methods for entering college freshmen in the proper mathematics sequence at Michigan Technological University. *The mathematics teacher*, 62 : 651-659.
- HUBERTY, C.J. 1975. Discriminant analysis. *Review of educational research*, 45 : 543 - 598.
- HUDSON, H.T. & McINTYRE, W.R. 1977. Correlation between mathematical skills and success in physics. *American journal of physics*, 45 : 470 - 471.
- HUMPHREYS, L.G. 1968. The fleeting nature of college academic success. *Journal of educational psychology*, 59 : 375 - 380.
- HUMPHREYS, L.G., LEVY, J. & TABER, T. 1973. Predictability of academic grades for students of high and low academic promise. *Educational and psychological measurement*, 33 : 385 - 392.
- HUMPHREYS, L.G. 1976. The phenomena are ubiquitous - but the investigator must look. *Journal of educational psychology*, 68 : 521.
- HUNT, D. & RANDHAWA, B.S. 1973. Relationship between and among cognitive variables and achievement in computational science. *Educational and psychological measurement*, 33 : 921 - 928.
- JACKSON, R. 1980. The Scholastic Aptitude Test: a response to Slack and Porter's "Critical Appraisal". *Harvard educational review*, 50 : 382 - 391.
- JOHNSON, E.S. 1984. Sex differences in problem solving. *Journal of educational psychology*, 76 : 1359 - 1371.
- JOHNSTON, J.M. & O'NEILL, G. 1973. The analysis of performance criteria defining college grades as a determinant of college student academic performance. *Journal of applied behavior analysis*, 6 : 261- 268.
- JONES, J.G. & GRIENEEKS, L. 1970. Measures of self-perception as predictors of scholastic achievement. *The journal of educational research*, 63 : 201 - 203.
- KERLINGER, F.N. & PEDHAZUR, E.J. 1973. Multiple regression in behavioral research. New York: Holt, Rinehart and Winston.
- KHAN, S.B. 1973. Sex differences in predictability of academic achievement. *Measurement and evaluation in guidance*, 6 : 88 - 91.
- KIRSCHNER, V. 1982. What research says: females and mathematics. *School science and mathematics*, 82 : 511 - 513.
- KLINE, P. 1966. Extraversion, neuroticism and academic performance among Ghanaian university students. *British journal of educational psychology*, 36 : 92 - 94.
- KOHLER, E.T. 1973. The relationship between the Cooperative Mathematics Test, algebra III, ACT mathematics usage test, ACT composite and grade point average in college algebra. *Educational and psychological measurement*, 33 : 929 - 931.

- LANIER, D. & LIGHTSEY, R. 1972. Verbal SAT scores and high school averages as predictors. *Intellect*, 101 : 127 -128.
- LARSON, J.R. & SCONTRINO, M. 1976. The consistency of high school grade-point average and of the verbal and mathematical portions of the scholastic aptitude test of the College Entrance Examination Board, as predictors of college performance: an eight-year study. *Educational and psychological measurement*, 36 : 439 - 443.
- LAVIN, D.E. 1965. The prediction of academic performance. New York : Russell Sage Foundation.
- LEAKE, C.R. 1970. Interest changes in mathematics of selected college students in New York State. (Dissertation abstracts international, 30, 2853A.)
- LENNING, O.T. & MAXEY, E.J. 1973. ACT versus SAT prediction for present-day colleges and students. *Educational and psychological measurement*, 33 : 397 - 406.
- LIN, Pang-Chieh & HUMPHRIES, L.G. 1977. Predictions of academic performance in graduate and professional school. *Applied psychological measurement*, 1 : 249 - 257.
- LIN, Yi-Guang & McKEACHIE, W.J. 1970. Aptitude, anxiety, study habits and academic achievement. *Journal of counseling psychology*, 17 : 306 - 309.
- LINS, L.J., ABELL, A.P. & HUTCHINS, H.C. 1966. Relative usefulness in predicting academic success of the ACT, the SAT, and some other variables. *Journal of experimental education*, 35 : 1 - 29.
- LUCHINS, E.H. 1979. Sex differences in mathematics: how NOT to deal with them. *The American mathematical monthly*, 86 : 161 - 168.
- LUNNEBORG, C.E., GREENMUN, R. & LUNNEBORG, P.W. 1970. A factor analysis of the core elements of the CEEB Comparative Guidance and Placement Battery. *Educational and psychological measurement*, 30 : 387 - 392.
- LUNNEBORG, C.E. & LUNNEBORG P.W. 1970. Relations between aptitude changes and academic success during college. *Journal of educational psychology*, 61 : 169 - 173.
- LUNNEBORG, P.W. 1977. Longitudinal criteria of predicted college achievement. *Measurement and evaluation in guidance*, 9 : 212 - 213.
- MARGRAIN, S.A. 1978. Student characteristics and academic performance in higher education: a review. *Research in higher education*, 8 : 111 - 123.
- MARRIOTT, F.H.C. 1974. The interpretation of multiple observations. London: Academic Press.

- MAUGER, P.A. & KOLMODIN, C.A. 1975. Long-term predictive validity of the Scholastic Aptitude Test. *Journal of educational psychology*, 67 : 847 - 851.
- McDONALD, J.F. & McPHERSON, M.S. 1975. High school type, sex, and socio-economic factors as predictors of the academic achievement of university students. *Educational and psychological measurement*, 35 : 929 - 933.
- McKILLIP, W.D. 1966. The effects of high school calculus on students' first semester calculus grades at the University of Virginia. *The mathematics teacher*, 59 : 470 - 472
- McLAUGHLIN, G.W. 1971. A note on the validity of two measures of high school rank. *Educational and psychological measurement*, 31 : 989 - 990.
- MEHRYAR, A.H., HEKMAT, H. & KHAJAVI, F. 1975. Some personality correlates of self-rated academic success. *Perceptual and motor skills*, 40 : 1007 - 1010.
- MITCHELL, G. & FRIDJOHN, P. 1987. Matriculation examinations and university performance. *South African journal of science*, 83 : 555-559.
- MÖLLER, N.J. 1965. Die meting van nie-intellektuele faktore as voorspeller van universiteitsukses, met verwysing na neurotisme en ekstraversie. Pretoria: Sielkundige Instituut van die Republiek van S.A. (Die Suid-Afrikaanse sielkundige, Monografie nr. 39.)
- MONTEITH, J.L. de K. 1984. Die identifisering van faktore wat die akademiese prestasie van eerstejaarstudente beïnvloed. Potchefstroom: PU vir CHO, Departement Psigo-Opvoedkunde.
- MONTEITH, J.L. de K. 1987. Die identifisering van veranderlikes wat die akademiese prestasie van dogters beïnvloed. Potchefstroom: PU vir CHO, Departement Psigo-Opvoedkunde.
- MORGAN, W.P. 1970. Prediction of success in junior college mathematics. *The mathematics teacher*, 63 : 260 - 263.
- MORRIS, L.W., KELLAWAY, D.S. & SMITH, D.H. 1978. Mathematics Anxiety Rating Scale: predicting anxiety experiences and academic performance in two groups of students. *Journal of educational psychology*, 70 : 589 - 594.
- MOUTON, P.J. 1972. Die aanwending van 'n syfertoets met die oog op voorspelling van akademiese sukses by eerstejaaruniversiteitstudente. Pretoria. (Proefskrif (M.A.) - UP.)
- NEELY, R. 1977. Discriminant analysis for prediction of college graduation. *Educational and psychological measurement*, 37 : 965 - 970.
- O'CONNELL, S. 1970. From school to university. *Universities quarterly*, 24 : 177 - 188.
- O'HALLORAN, P.M. & RUSSELL, G.J. 1980. Assessment and prediction of success in first year physics at an Australian university. *Higher education*, 9 : 529 - 547.

OOSTHUIZEN, S. 1985. 'n Vergelyking van eerstejaar slaag- en druipgroepe aan die PU vir CHO ten opsigte van sekere kognitiewe en nie-kognitiewe veranderlikes. (Wetenskaplike bydraes van die PU vir CHO, reeks A : 66 - 78.) Potchefstroom: PU vir CHO.

PANTAGES, T.J. & CREEDON, C.F. 1978. Studies of college attrition: 1950 - 1975. *Review of educational research*, 48 : 49 - 101.

PASSONS, W.R. 1967. Predictive validities of the ACT, SAT and high school grades for first semester GPA and freshman courses. *Educational and psychological measurement*, 27 : 1143 - 1144.

PATTISON, P. & GRIEVE, N. 1984. Do spatial skills contribute to sex differences in different types of mathematical problems. *Journal of educational psychology*, 76 : 678 - 689.

PAYNE, R.W., DAVIDSON, P.O. & SLOANE, R.B. 1966. The prediction of academic success in university students: a pilot study. *Canadian journal of psychology*, 20 : 52 - 63.

PERLBERG, A. 1967. Predicting academic achievements of engineering and science college students. *Journal of educational measurement*, 4 : 241 - 246.

PETRY, J.R. & CRAFT, P.A. 1976. Investigation of instruments to predict academic performance of high-risk college students. *The journal of educational research*, 70 : 21 - 25.

PINES, S.F. 1981. A procedure for predicting underachievement in mathematics among female college students. *Educational and psychological measurement*, 41 : 1137 - 1146.

PLAKE, B.S. & PARKER, C.S. 1982. The development and validation of a revised version of the Mathematics Anxiety Rating Scale. *Educational and psychological measurement*, 42 : 551 - 557.

POWERS, S., DOUGLAS, P. & CHOROSZY, M. 1984. A reliability and validity investigation of the Mathematics Attribution Scale. *Educational and psychological measurement*, 44 : 733 - 737.

PRICE, F.W. & KIM, Suk Hi. 1976. The association of college performance with high school grades and college entrance test scores. *Educational and psychological measurement*, 36 : 965 - 970

PROUSE, H. & TURNER, V.D. 1969. Factors contributing to success in calculus II. *The journal of educational research*, 62 : 439 - 440.

REINER, J.R. 1971. Differential effects of initial course placement as a function of ACT Mathematics scores and high-school rank-in-class in predicting general performance in chemistry. *Educational and psychological measurement*, 31 : 977 - 981.

RESNICK, H., VIEHE, J. & SEGAL, S. 1982. Is math anxiety a local phenomenon? A study of prevalence and dimensionality. *Journal for counseling psychology*, 29 : 39 - 47.

- RICHARDSON, F.C. & SUINN, R.M. 1972. The Mathematics Anxiety Rating Scale: psychometric data. *Journal of counseling psychology*, 19 : 551 - 554.
- ROBINSON, W.B. 1970. The effects of two semesters of secondary school calculus on students' first and second quarter calculus grades at the University of Utah. *Journal for research in mathematics education*, 1 : 57 - 60.
- ROCK, D.A., CENTRA, J.A. & LINN, R.L. 1970. Relationships between college characteristics and student achievement. *American educational research journal*, 7 : 109 - 121.
- RÖTH, H.W. 1982. Enkele persoonlikheidsaspekte by drie groepe eerstejaarstudente. Potchefstroom. (Skripsie (M.A.) - PU vir CHO.)
- ROSSMAN, J.E. & KIRK, B.A. 1970. Factors related to persistence and withdrawal among university students. *Journal of counseling psychology*, 17 : 56 - 62.
- ROUNDS, J.B. & HENDEL, D.D. 1980(a). Measurement and dimensionality of mathematics anxiety. *Journal of counseling psychology*, 27 : 138 - 149.
- ROUNDS, J.B. & HENDEL, D.D. 1980(b). Mathematics and attitudes toward mathematics. *Measurement and evaluation in guidance*, 13 : 83 - 89.
- ROWELL, J.A. & RENNER, V.J. 1975. Personality, mode of assessment and student achievement. *British journal of educational psychology*, 45 : 232 - 236.
- SANDMAN, R.S. 1980. The Mathematics Attitude Inventory: instrument and user's manual. *Journal for research in mathematics education*, 11 : 148 - 149.
- SANDMAN, R.S. 1973. The development, validation, and application of a multidimensional mathematics attitude instrument. (In *Dissertation Abstracts International*, 34 : 7054A- 7055A.)
- SATTERLY, D.J. 1976. Cognitive styles, spatial ability, and school achievement. *Journal of educational psychology*, 68 : 38 - 42.
- SCHAFFNER, P.E. 1985. Competitive admission practices when the SAT is optional. *Journal of higher education*, 56 : 55 - 72.
- SCHOENFELDT, L.F. & BRUSH, D.H. 1975. Patterns of college grades across curricular areas: some implications for GPA as a criterion. *American educational research journal*, 12 : 313 - 321.
- SELLS, L.W. 1978. Mathematics - a critical filter. *Science teacher*, 45 : 28 - 29.
- SEPIE, A.C. & KEELING, B. 1978. The relationship between types of anxiety and under-achievement in mathematics. *The journal of educational research*, 72 : 15 - 19.

- SHERMAN, J. & FENNEMA, E. 1977. The study of mathematics by high school girls and boys: related variables. *American educational research journal*, 14 : 159 - 168.
- SHERMAN, J. 1983. Factors predicting girls' and boys' enrollment in college preparatory mathematics. *Psychology of women quarterly*, 7 : 272 - 281.
- SHERMAN, J. 1979. Predicting mathematics performance in high school girls and boys. *Journal of educational psychology*, 71 : 242 - 249.
- SHEVEL, L.R. & WHITNEY, D.R. 1969. Predictive validity of the Mathematics Placement Examination. *Educational and psychological measurement*, 29 : 895 - 901.
- SIEGELMAN, N. 1971. SAT and high school average predictions of four-year college achievement. *Educational and psychological measurement*, 31 : 947 - 950.
- SLACK, W.V. & PORTER, D. 1980(a). The Scholastic Aptitude Test: a critical appraisal. *Harvard educational review*, 50 : 154 - 175.
- SLACK, W.V. & PORTER, D. 1980(b). Training, validity, and the issue of aptitude: a reply to Jackson. *Harvard educational review*, 50 : 392 - 401.
- SMIT, G.J. 1971. Die verband tussen bepaalde nie-intellektuele faktore en akademiese sukses. Pretoria. (Verhandeling (Ph.D.) - UP.)
- SMIT, G.J. 1984. Psigometrika: aspekte van toetsgebruik. Pretoria: HAUM.
- SMITHERS, A.G. & DANN, S. 1974. Success and failure among engineers, physical scientists and linguists at a technological university. *British journal of educational psychology*, 44 : 241 - 247.
- SMITHERS, A.G. & BATCOCK, A. 1970. Success and failure among social scientists and health scientists at a technological university. *British journal of educational psychology*, 40 : 144 - 153.
- SORGE, D.H. & WARK, L.K. 1984. Factors for success as a computer science major. *AEDS journal*, 17 : 36 - 45.
- STANLEY, J.C. & HOPKINS, K.D. 1972. Educational and psychological measurement and evaluation. Englewood Cliffs, N.J.: Prentice-Hall.
- STEYN, D.M. 1971. 'n Ondersoek na die verband tussen enkele persoonlikheidsmodaliteite en die akademiese prestasie van eerstejaar-ingenieurswese studente. Pretoria. (Verhandeling (M.A.) - UP.)
- STEYN, H.S. 1987. Meervoudige lineêre regressie: 'n inleiding vir navorsers in die geesteswetenskappe. Potchefstroom: PU vir CHO: Statistiese Konsultasiediens.

STOKER, D.J., ENGELBRECHT, C.S., CROWTHER, N.A.S., DU TOIT, S.H.C. & HERBST, A. 1985. Ondersoek na differensiële toelatingsvereistes tot tersiêre-onderwysinrigtings. Pretoria: Raad vir Geesteswetenskaplike Navorsing. (RGN-verslag WS-32.)

STONES, I., BECKMANN, M. & STEPHENS, L. 1982. Sex-related differences in mathematical competencies of pre-calculus college students. *School science and mathematics*, 82 : 295 - 299.

SUDDICK, D.E. & COLLINS, B.A. 1982. The Descriptive Tests of Mathematical Skills: a follow-up of performance of older upper division students. *Educational and psychological measurement*, 42 : 559 - 561.

SUINN, R.M., EDIE, C.A., NICOLETTI, J. & SPINELLI, P.R. 1972. The MARS, a measure of mathematics anxiety: psychometric data. *Journal of clinical psychology*, 28 : 373 - 375.

SZETELA, W. 1973. The effects of test anxiety and success/failure on mathematics performance in grade eight. *Journal for research in mathematics education*, 4 : 152 - 160.

TATHAM, C.B. & TATHAM, E.J. 1971. A note on the predictive validity of the Cooperative Algebra III. *Educational and psychological measurement*, 31 : 517 - 518.

THEODORY, G.C. & DAY, R.C. 1985. The association of professors' style, trait anxiety, and experience with students' grades. *American educational research journal*, 22 : 123 - 133.

THORNELL, J.G. & MCCOY, A. 1985. The predictive validity of the graduate record examinations for subgroups of students in different academic disciplines. *Educational and psychological measurement*, 45 : 415 - 419.

TOBIAS, S. & WEISSBROD, C. 1980. Anxiety and mathematics: an update. *Harvard educational review*, 50 : 63 - 70.

TOWLE, N.J. & MERRILL, P.F. 1975. Effects of anxiety type and item-difficulty sequencing on mathematics test performance. *Journal of educational measurement*, 12 : 241 - 249.

TROUTMAN, J.G. 1978. Cognitive predictors of final grades in finite mathematics. *Educational and psychological measurement*, 38 : 401 - 404.

VAN DER WATT, C.J. 1982. Die benutting van profielontleding, diskriminantontleding en meervoudige regressieontleding in 'n voorligtingsprogram. Potchefstroom. (Verhandeling (D.Sc.) - PU vir CHO.)

VAN DER WESTHUIZEN, G.J. 1987. Die voorspelling van die akademiese prestasie van Swart leerlinge. Potchefstroom. (Verhandeling (D.Ed.) - PU vir CHO.)

VAN DEYNSE, N. 1984. Factors of study success in the first year of engineering education at the K.U. Leuven, Belgium. *European journal of engineering education*, 8 : 363 - 368.

- VAN NIEKERK, S.M.F. 1986. Wiskundeprestasie: die effek van geslagsrolstereotipering. Johannesburg. (Verhandeling (M.A.) - RAU.)
- VAN WYK, J.A. & CRAWFORD, J.L. 1984. Correlation between matric symbols and marks obtained in a first year ancillary physics course at the University of the Witwatersrand. *South African journal of science*, 80 : 8 - 9.
- VENABLE, T.C. 1981. Declining SAT scores: some unpopular hypotheses. *Phi delta kappan*, 62 : 441 - 443.
- VENTER, P.A. 1983. Die invloed van die skoolomgewing op akademiese prestasie. Potchefstroom. (Proefskrif (D.Ed.) - PU vir CHO.)
- VISSER, D. 1985(a). Wiskunde-angs en keuse van studierigting. *Suid-Afrikaanse tydskrif vir opvoedkunde*, 5 : 113 - 117.
- VISSER, D. 1985(b). Vroue en wiskunde: fokus op geslagsverskille. Pretoria: Raad vir Geesteswetenskaplike Navorsing. (RGN-verslag P-55.)
- VISSER, D. 1983. Die verwantskap tussen houdings teenoor navorsingsmetodologie en teorie van sielkundige meting en houdings teenoor wiskunde. *Suid-Afrikaanse tydskrif vir sielkunde*, 13 : 77 - 86.
- WAMPLER, J.F. 1966. Prediction of achievement in college mathematics. *The mathematics teacher*, 59 : 364 - 369.
- WARE, N.C., STECKLER, N.A. & LESERMAN, J. 1985. Undergraduate women. Who chooses a science major? *Journal of higher education*, 56 : 73 - 84.
- WATKINS, D. 1986. Learning processes and background characteristics as predictors of tertiary grades. *Educational and psychological measurement*, 46 : 199 - 203.
- WATKINS, D. 1984. Learning strategies as threshold variables in the prediction of tertiary grades. *Educational and psychological measurement*, 44 : 523 - 525.
- WATKINS, D. 1982. Testing the validity of a model of student progress at an Australian university. *Educational and psychological measurement*, 42 : 571 - 574.
- WATSON, J.M. 1983. The Aiken Attitude towards Mathematics Scales: psychometric data on reliability and discriminant validity. *Educational and psychological measurement*, 43 : 1247 - 1253.
- WEBB, J. 1985. College mathematics achievement and logical reasoning. *Perceptual and motor skills*, 61 : 15 - 22.
- WEIGEL, R.G. & WEIGEL, V.M. 1967. The relationship of knowledge and usage of study skill techniques to academic performance. *The journal of educational research*, 61 : 78 - 80.

- WEINER, B. & POTEPAN, P.A. 1970. Personality characteristics and affective reactions toward exams of superior and failing college students. *Journal of educational psychology*, 61 : 144 - 151.
- WEITZMAN, R.A. 1982. The prediction of college achievement by the Scholastic Aptitude Test and the high school record. *Journal of educational measurement*, 19 : 179 - 191.
- WERTS, C., LINN, R.L. & JÖRESKOG, K.G. 1978. Reliability of college grades from longitudinal data. *Educational and psychological measurement*, 38 : 89 - 95.
- WHIPKEY, K.L. 1969. A study of the interrelationship between mathematical aptitude and mathematical achievement. (In *Dissertation Abstracts International*, 30, 3808A.)
- WHITESITT, J.E. 1961. Boolean algebra and its applications. Reading, Massachusetts: Addison-Wesley Publishing Company.
- WILLINGHAM, W.W. 1974. Predicting success in graduate education. *Science*, 183 : 273 - 278.
- WILLIAMS, R.L. 1970. Personality, ability, and achievement correlates of scholastic attitudes. *The journal of educational research*, 63 : 401 - 403.
- WILLSON, V.L. & STOLLER, J.E. 1981. Predicting teacher NTE scores in mathematics and science. *Educational and psychological measurement*, 41 : 479- 485.
- WILSON, J.M. 1973. Post mathematical attitudes among prospective elementary teachers as predicted by general mathematics skills, modern mathematics skills, modern mathematics achievement, and prior mathematical attitudes. (In *Dissertation Abstracts International*, 34, 2453A.)
- WILSON, K.M. 1983. A review of research on the prediction of academic performance after the freshman year. College Board Report No. 83-2. New York: College Board.
- WIVIOTT, S.P. & POLLARD, D.S. 1974. Background, section, and student evaluation variables as predictors of achievement in a college course. *The journal of educational research*, 68 : 36 - 42.
- WOLLEAT, P., PEDRO, J., BECKER, A. & FENNEMA, E. 1980. Sex differences in high school students' causal attributions of performance in mathematics. *Journal for research in mathematics education*, 11 : 356 - 366.

BYLAE A
ALGEBRATOETS (ALGT)

1. Beantwoord AL die vrae op die REKENAARKAART
2. Volg die instruksies van die eksamenopsiener noukeurig

1. Die getal -2 is 'n natuurlike getal.

- (1) Waar (2) Onwaar

2. As $x^2 - 5x - 6$ ten volle in faktore ontbind word, gee dit

- (1) $(x - 3)(x + 2)$ (2) $(x - 3)(x - 2)$
(3) $(x + 6)(x - 1)$ (4) $(x - 6)(x + 1)$

3. As $ax + bx = c$, dan is x gelyk aan

- (1) $\frac{c}{a - b}$ (2) $\frac{c}{a} - b$
(3) $c - a - b$ (4) $\frac{c}{a + b}$

4. As $x > y$, dan geld $-x < -y$.

- (1) Waar (2) Onwaar

5. As $M = \{3; 6\}$ en $N = \{3; 7\}$, dan is $M \times N$ gelyk aan

- (1) $\{9; 42\}$ (2) $\{(3, 6); (3, 7)\}$
(3) $\{(3, 3); (3, 7); (6, 3); (6, 7)\}$ (4) \emptyset

6. $(2x^3)^{-2} = \dots$

- (1) $-4x^6$ (2) $\frac{1}{4x^5}$
(3) $\frac{1}{4x^6}$ (4) $\frac{-4}{x^6}$

7. Die optellingsinverses van 1 is 0.

- (1) Waar (2) Onwaar

8. $\frac{a-b}{a+b} - \frac{b}{a+b} = \dots$

(1) $\frac{a}{a+b}$

(2) $\frac{a-2b}{2(a+b)}$

(3) $\frac{a-2b}{a+b}$

(4) $\frac{a-2b}{(a+b)^2}$

9. As $f(x) = 6x - 3$ met x reëel, dan word die inverse van f gegee deur

(1) $f^{-1}(x) = \frac{x-3}{6}$

(2) $f^{-1}(x) = \frac{x+3}{6}$

(3) $f^{-1}(x) = \frac{1}{6x-3}$

(4) $f^{-1}(x) = \frac{1}{6}x + 3$

10. $(\frac{1}{2})^2 = \frac{1}{4}$.

(1) Waar

(2) Onwaar

11. Die uitdrukking $\frac{x-2}{(x+3)(x-4)}$ sal gelyk wees aan nul as x gelyk is aan

(1) -3 en 4

(2) 0

(3) -3 of 4

(4) 2

12. $\sin \theta$ is ...

(1) 'n hoek.

(2) 'n reële getal.

(3) die radius van 'n sirkel. (4) geeneen van bostaande nie; die waarde van θ moet eers bekend wees.

13. As $x^2 = 4$ en x is 'n reële getal, dan is $x = 2$.

(1) Waar

(2) Onwaar

14. Vereenvoudig $\frac{a}{b} - \frac{b}{a}$.

(1) $\frac{a^2 - b^2}{ab}$

(2) $\frac{a^2 + b^2}{ab}$

(3) $\frac{a-b}{b-a}$

(4) $a^2 - b^2$

15. As $x^{\frac{3}{2}} = 8$, dan is $x = \dots$

(1) 12

(2) $4\frac{3}{2}$

(3) $5\frac{1}{3}$

(4) $8^{\frac{3}{2}}$

16. $\frac{x}{1+x}$ is ongedefinieer as $x = 0$.

(1) Waar

(2) Onwaar

17. 'n Reghoek is $(x - 1)$ mm breed en sy oppervlakte is $(x^2 - 1)$ mm².
Sy lengte is...

(1) $(x - 1)$ mm

(2) x mm

(3) $(x + 1)$ mm

(4) $\frac{1}{(x - 1)}$ mm

18. Die oplossing van $2^x - 2 = \frac{1}{2}$ is $x = \dots$

(1) -2

(2) 1

(3) $\frac{1}{4}$

(4) 2

19. As $f(x) = -x^2$, dan is $f(-2) = -4$.

(1) Waar

(2) Onwaar

20. Watter getal moet by $x^2 - 16x$ getel word om die uitdrukking
'n volkome vierkant te maak?

(1) 0

(2) 16

(3) 4

(4) 64

21. As $\log 2 = a$ en $\log 3 = b$, dan is $\log 6$ gelyk aan

(1) ab

(2) $a + b$

(3) $\log ab$

(4) $\log a + \log b$

22. $\frac{2x + 4}{4}$ kan vereenvoudig word na $2x + 1$.

(1) Waar

(2) Onwaar

23. Wat moet by $\frac{1}{a}$ getel word om $\frac{2}{a}$ te kry?

(1) 1

(2) $\frac{1}{2a}$

(3) $\frac{1}{a}$

(4) $\frac{-a + 1}{a}$

24. $2 \cos (180^\circ - 30^\circ) = \dots$

(1) $2 \cos (-30^\circ)$

(2) $-2 \cos 30^\circ$

(3) $-\cos 75^\circ$

(4) $2 \cos 30^\circ$

25. $2^3 < 3^2$

(1) Waar

(2) Onwaar

26. As $x + y = 4$ en $x - y = -7$, dan is $x^2 - y^2$ gelyk aan

(1) -3

(2) -11

(3) -28

(4) 28

27. Die algemene term in die ry $-\frac{5}{2}, \frac{5}{4}, -\frac{5}{8}, \dots$ is

(1) $-5\left(\frac{1}{2}\right)^n$

(2) $\pm 5\left(\frac{1}{2}\right)^n$

(3) $5\left(-\frac{1}{2}\right)^n$

(4) $\left(-\frac{5}{2}\right)^n$

28. Die maksimum waarde van $-(x - 2)^2$ is 0.

(1) Waar

(2) Onwaar

29. Die uitdrukking $\sqrt{1 - x^2}$ is nie gedefinieer nie as x gelyk is aan

(1) 0

(2) 1 of -1

(3) -2

(4) die uitdrukking is gedefinieer vir alle reële waardes van x .

30. Die grafiek van die funksie $y = x^2 + 4$ sny die x-as

- (1) in slegs een punt.
- (2) in twee punte.
- (3) in een of twee punte, afhangende van die waarde van x .
- (4) glad nie.

31. Die grafiek van $y = x^2 + x$ is 'n reguit lyn.

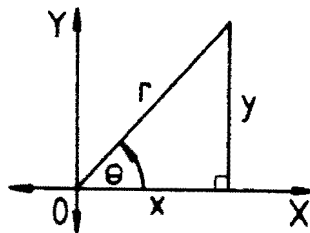
- (1) Waar
- (2) Onwaar

32. As $f(x) = \frac{1}{x}$, dan is $f(\frac{1}{2}) = \dots$

- (1) -2
- (2) 2
- (3) $\frac{1}{2}$
- (4) $\frac{1}{2}$

33. $\sin \theta = 0,5$ slegs as

- (1) $y = 5$ en $r = 10$.
- (2) $r = 2y$.
- (3) $y = 2r$.
- (4) $r = \frac{1}{2}\sqrt{x^2 + y^2}$



34. As $x^{\frac{1}{2}} = 4$, dan is $x = 16$.

- (1) Waar
- (2) Onwaar

35. As $R = \{x | -2 \leq x \leq 3; x \in \{\text{heelgetalle}\}\}$, kan R getabelleer word as

- (1) $R = \{-2; -1; 0; 1; 2\}$.
- (2) $R = \{\dots; -3; -2; 4; 5; \dots\}$.
- (3) $R = \{-1; 0; 1; 2; 3\}$.
- (4) $R = \{-2; 3\}$.

36. As $a^b + 1 = 1$, dan is b gelyk aan

- (1) -1
- (2) $-a - 1$
- (3) 0
- (4) $\frac{1}{a} - 1$

37. Die vierde term in die ry $-8, 4, -2, \dots$ is $\frac{1}{2}$.

(1) Waar

(2) Onwaar

38. $\sqrt{x^2 + y^2}$ is gelyk aan

(1) $x + y$

(2) $\pm(x + y)$

(3) $x^{\frac{1}{2}} + y^{\frac{1}{2}}$

(4) geeneen van bostaande nie.

39. Vir watter waardes van x sal die relasie $h = \{(x, 2); (2x^2, 4)\}$ NIE 'n funksie wees NIE?

(1) 0 en 2

(2) 2 en -2

(3) 0 en $\frac{1}{2}$

(4) $-\frac{1}{2}$ en -2

40. $x^2 - 4x + k$ is 'n volkome vierkant as $k = 16$.

(1) Waar

(2) Onwaar

41. $(2x^3)^2$ is gelyk aan

(1) $2x^6$

(2) $4x^5$

(3) $4x^9$

(4) $4x^6$

42. Koos (van der Merwe natuurlik!) is aangestel om die wit streep op 'n teerpad te verf. Die eerste dag verf hy 'n streep van $\frac{1}{2}$ km, die tweede dag vorder hy $\frac{1}{4}$ km, die derde dag $\frac{1}{8}$ km, ensovoorts. Wat is die totale afstand wat hy sal kan verf as hy op dié manier voortgaan?

(1) Oneindig ver

(2) 1 km

(3) $0,5$ km

(4) Die afstand kan nie bepaal word nie.

((Voorman: Koos, hoe's dit dan dat jy elke dag minder verf?

Koos: Moenie dig wees nie - kyk net hoe ver staan die verfblik dan nou al!))

43. $\frac{1}{2} + \frac{1}{3} = \frac{1}{6}$

(1) Waar

(2) Onwaar

44. As $x^{-\frac{1}{2}} = 2$, dan is x gelyk aan

(1) -1

(2) $\frac{1}{4}$

(3) 4

(4) $\frac{1}{\sqrt{2}}$

45. $\frac{\sin x}{\cos x} + \frac{\cos x}{\sin x} = \dots$

(1) 1

(2) $\sec x \cdot \operatorname{cosec} x$

(3) 0

(4) $-\tan^2 x$

46. $(a + b)^2 = a^2 + b^2$

(1) Waar

(2) Onwaar

47. $\frac{2^a \times 3^a}{6}$ is gelyk aan

(1) $\frac{5^a}{6}$

(2) 1^{2a}

(3) 6^{a-1}

(4) 6^{a^2-1}

48. As $\log 4 = 0,602$, dan is $\log 40$ gelyk aan

(1) 6,02

(2) 10,602

(3) 1,602

(4) 0,702

49. As $x^2 + y^2 = 0$, dan is beide x en y gelyk aan 0.

(1) Waar

(2) Onwaar

50. $a^{-1} + b^{-1}$ is gelyk aan

(1) $(ab)^{-2}$

(2) $\frac{1}{ab}$

(3) $\frac{1}{a+b}$

(4) $\frac{a+b}{ab}$

51. 'n Tweesyfer getal bestaande uit 'n tiensyfer x en enesyfer y is

(1) $10(x + y)$

(2) xy

(3) $x + 10y$

(4) $10x + y$

52. $\frac{1}{x}$ is baie groot as x baie klein en positief is.

(1) Waar

(2) Onwaar

53. As $\log 2 = 0,301$, dan is $\log 8$ gelyk aan

(1) 0,903

(2) 1,204

(3) $(0,301)^3$

(4) geeneen nie; die antwoord moet met 'n sakrekenaar of tabelle bepaal word.

54. $\sum_{r=1}^{k+1} 2r - \sum_{r=1}^k 2r = \dots$

(1) $2k + 2$

(2) $2k$

(3) 2

(4) $2k + 1$

55. $x + y$ is 'n faktor van $x^2 - y^2$.

(1) Waar

(2) Onwaar

56. Watter een van die volgende punte is op die grafiek van die funksie $\{(x,y) \mid xy = 12; x \in \mathbb{R}, y \in \mathbb{R}\}$?

(1) $(2,10)$

(2) $(12,0)$

(3) $(2,-6)$

(4) $(-2,-6)$

57. Een van die hoeke waarvoor $\frac{\sin x}{1 + \cos x}$ nie gedefinieer is nie, is

(1) 0°

(2) 180°

(3) 270°

(4) 90°

58. As $2^x = 3^x$, dan geld $x = \frac{1}{6}$.

(1) Waar

(2) Onwaar

59. Van die relasies

(a) $\{(x,y) | y = x^2\}$

(b) $\{(x,y) | 2x + 3y = 4\}$

(c) $\{(x,y) | x^2 + y^2 = 25\}$

(d) $\{(2,3); (3,4); (4,4)\}$

is

(1) almal funksies.

(2) nie een 'n funksie nie.

(3) slegs (c) 'n funksie.

(4) slegs (c) nie 'n funksie nie.

60. Die funksie waarvan die grafiek simmetries is met die grafiek van die funksie $\{(x,y) | y = 2^x\}$ om die lyn $y = x$, word gedefinieer deur

(1) $y = \log_2 x$

(2) $x = \log_2 y$

(3) $y = \log_x 2$

(4) $y = \log_{\frac{1}{2}} x$