

ABSTRAK

Maria Regina Rosari Devita Heksa Oktaviani. 2021. Analisis Kemampuan Pemodelan Matematis Siswa pada Materi Garis Singgung Lingkaran kelas VIII di SMP Kanisius 1 Surakarta tahun ajaran 2020/2021. Program Studi Pendidikan Matematika. Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam. Fakultas Keguruan dan Ilmu Pendidikan. Universitas Sanata Dharma Yogyakarta.

Penelitian ini bertujuan untuk mengetahui dan mendeskripsikan kemampuan pemodelan matematis siswa pada materi Garis Singgung Lingkaran kelas VIII SMP Kanisius 1 Surakarta.

Jenis penelitian ini adalah deskriptif dan data dianalisis secara kuantitatif kualitatif. Subjek penelitian adalah 25 siswa kelas VIII SMP Kanisius 1 Surakarta. Objek penelitian adalah kemampuan pemodelan matematis pada materi Garis Singgung Lingkaran. Metode penelitian yang dilakukan adalah tes kemampuan pemodelan matematis. Data hasil tes kemampuan pemodelan diolah dengan pemberian skor sesuai dengan rubrik skor dilanjutkan dengan perhitungan skor akhir. Rentang nilai yang diperoleh setiap siswa adalah 0 – 100 dan hasil akhir yang diperoleh siswa akan dikonversikan dalam lima kategori yaitu kategori siswa dengan kemampuan pemodelan matematika yang baik sekali, baik, cukup, kurang dan kurang sekali.

Hasil penelitian menunjukkan bahwa kemampuan pemodelan siswa kelas VIII SMP Kanisius 1 Surakarta secara keseluruhan sudah pada kategori baik dengan rata – rata keseluruhan sebesar 65,15. Ketercapaian indikator kemampuan pemodelan matematis diantaranya 67,94% siswa dapat memenuhi indikator kemampuan pemodelan tahap pemahaman masalah, 41,02% siswa dapat memenuhi indikator kemampuan pemodelan tahap penstrukturan, 53,84% siswa dapat memenuhi indikator kemampuan pemodelan tahap matematisasi, 67,94% siswa dapat memenuhi indikator kemampuan pemodelan tahap pengerjaan matematika, 60,25% siswa dapat memenuhi indikator kemampuan pemodelan tahap interpretasi, 35,89% siswa dapat memenuhi indikator kemampuan pemodelan tahap verifikasi.

Kata kunci: kemampuan pemodelan matematis, garis singgung lingkaran, matematika

ABSTRACT

Maria Regina Rosari Devita Heksa Oktaviani. 2021. Analysis of Students' Mathematical Modeling Ability on Tangent Line Material for grade 8th at Kanisius 1 Surakarta Junior High School in the 2020/2021 academic year. Mathematics Education Study Program. Department of Mathematics and Sciences Education. Faculty of Teacher Training and Education. Sanata Dharma University Yogyakarta.

This study aims to determine and describe the mathematical modeling ability of students in the material tangent to a circle in grade 8th Kanisius 1 Surakarta Junior High School.

This type of research is descriptive and the data analyzed quantitatively qualitative. The research subjects were 25 students of grade 8th Kanisius 1 Surakarta Junior High School. The object of research is the ability of mathematical modeling on the tangent to a circle material. The research method used is a mathematical modeling ability test. The data from the modeling ability test results were processed by scoring in accordance with the score rubric followed by calculating the final score. The range of values obtained by each student is 0-100 and the final results obtained by students will be converted into five categories, namely the category of students with excellent mathematical modeling abilities, good, sufficient, less and very less.

The results showed that the modeling ability of the eighth grade students of Kanisius 1 Surakarta Junior High School was in the good category as a whole with an overall average of 65.15. The achievement of indicators of mathematical modeling ability including 67.94% of students can meet the indicators of modeling ability of the problem understanding stage, 41.02% of students can meet the indicators of modeling ability of the structuring stage, 53.84% of students can meet the indicators of modeling ability of the mathematization stage, 67.94% students can meet the indicators of the modeling ability of the mathematical working stage, 60.25% of the students can meet the indicators of the modeling ability of the interpretation stage, 35.89% of the students can meet the indicators of the modeling ability of the verification stage.

Keywords: mathematical modeling ability, tangent to circle, mathematic