

ABSTRAK

Brigita Afrelia Anandayu. 2013. Analisis Kesalahan Siswa Kelas XB SMA Negeri 1 Jeruklegi dalam Mengerjakan Soal Pokok Bahasan Besar Sudut Antara Garis dan Bidang dalam Ruang Tahun Ajaran 2012/2013. Skripsi. Program Studi Pendidikan Matematika. Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam. Fakultas Keguruan dan Ilmu Pendidikan. Universitas Sanata Dharma. Yogyakarta

Penelitian ini bertujuan untuk (1) mengetahui adanya kesalahan dan jenis kesalahan apa yang dilakukan siswa kelas XB SMA Negeri 1 Jeruklegi tahun ajaran 2013/2013 dalam menyelesaikan soal pokok bahasan menentukan besar sudut antara garis dan bidang dan (2) mengetahui faktor apa saja yang menyebabkan siswa kelas XB SMA Negeri 1 Jeruklegi tahun ajaran 2012/2013 melakukan kesalahan dalam menyelesaikan soal pokok bahasan menentukan besar sudut antara garis dan bidang.

Subjek penelitian ini adalah siswa kelas XB SMA Negeri 1 Jeruklegi tahun ajaran 2012/2013. Ada 32 siswa yang mengikuti tes esai dan 6 siswa yang dipilih untuk dilaksanakan wawancara. Penelitian ini menggunakan metode deskriptif kualitatif. Data yang dikumpulkan melalui tes esai dengan pokok bahasan Sudut Antara Garis dan Bidang yang terdiri dari 3 soal dan kemudian dilanjutkan wawancara.

Hasil penelitian ini menunjukkan bahwa (1) adanya kesalahan dan jenis-jenis kesalahan yang dilakukan siswa kelas XB SMA Negeri 1 Jeruklegi dalam mengerjakan soal menentukan besar sudut antara garis dan bidang, yaitu (a) kesalahan menggunakan nilai suatu variabel untuk variabel lain dengan prosentase 8,33% dan kesalahan menyalin data dengan prosentase 10,42% (b) kesalahan menggunakan teorema Pythagoras dengan prosentase 28,13%, kesalahan dalam teori menggambar bangun ruang dan teori membentuk sudut antara garis dan bidang dengan prosentase 66,67%, dan kesalahan menyamadengkan nilai sinus/cosinus/tangennya dengan besar sudutnya dengan prosentase 40,63%, (c)

kesalahan menghitung dengan prosentase 21,88% dan kesalahan menggunakan algoritma yang kurang sempurna dengan prosentase 71,88%, dan (d) penyelesaian yang tidak diperiksa kembali dengan prosentase 21,88% dan (2) faktor-faktor penyebab siswa melakukan kesalahan yaitu (a) siswa kurang memahami konsep segitiga siku-siku dan Phytagoras, (b) siswa kurang memahami konsep trigonometri (c) siswa kurang memahami konsep sudut antara garis dan bidang dalam ruang dimensi tiga, (d) siswa kurang teliti dalam langkah pengerjaan maupun melakukan perhitungan.

Kata kunci : Analisis Kesalahan, Besar Sudut Antara Garis dan Bidang dalam Ruang, Mengerjakan Soal

ABSTRACT

Brigita Afrelia Anandayu, 2013. The Analysis of Students' Error of Class XB in Doing Task at The Main Subject of The Angle Between a Line and a Plane in The Solids at SMA Negeri 1 Jeruklegi in The Academic Year of 2012/2013. Research. Mathematics Education Study Program. Teacher Training and Education Faculty. Sanata Dharma University. Yogyakarta

The objectives of this research are (1) to know whether there is an error or not and the types of Students' Error in doing the tasks of main subject of the angle between a line and a plane in the solids and (2) to know the factor of causing errors of the students in doing the tasks of main subject of the angle between a line and a plane in the solids.

The subjects of this research were the students of class XB of SMA Negeri 1 Jeruklegi in the academic year of 2012/2013. There were 32 students following essay test and 6 students were selected in interviewing. This research is descriptive-qualitative research. The data were collected through essay test on the subject of the angle between a line and an area which consists of 3 questions and the next session was interview.

The result of this research were (1) there were errors and the types of errors that which had been done by the students of class XB of SMA Negeri 1 Jeruklegi in the academic year of 2012/2013 in doing tasks on the subject of the angle between a line and a plane, were (a) Errors of using a variable for the other variable with percentage 8,33% and the errors of copy of data with percentage 10,42% (b) the errors of using the theorem of Pythagoras with percentage 28,13%, the errors of drawing the shapes and building the angle between a line and a plane with percentage 66,67%, and the errors of making the value of sinus/cosinus/tangen equal to the measure of the angle with percentage 40,63%, (c) the errors of counting with percentage 21,88% and the errors using the algorithm that not perfect with percentage 71,88%, and (d) the errors that are not checked again by the students with percentage 21,88%, and (2) the factor causing

were (a) the students did not understand the concept of right triangle and Pythagoras, (b) the students did not understand the concept of trigonometry, (c) the students did not understand the concept of three dimensional geometry in drawing the solids, (d) the students did not understand the concept of the angle between a line and a plane in the solids, (e) the students can not be comprehensive in doing operation.

Keywords : The Analysis of Errors, The Angle Between a Line and a Plane in The Solids, Doing Task

