UNIT 7 LESSON 8 ZHORES ALFEROV FORM 10

In ***1) .....(CHILD)***, my brother and I used to listen ***2) .....*** father's stories about the civil war and his military career. Father graduated ***3) .....*** the Industrial Academy in 1935 and since then fate was throwing us all over the country: Stalingrad, Novosibirsk, Barnaul, etc., where we lived throughout the wartime, and eventually the Minsk-city lying in ruins after the war.

Learning was easy to me, and my elder brother Marx, made my ***4).....(EXIST)*** cloudless at school and outdoors as well. Marx graduated high school ***5) .....*** June 21, 1941 and decided to defend his Motherland and to fight against fascists at the front line. He passed Stalingrad, Kharkov, the Kursk battle. Having recovered after heavy head injury, he was sent to the Army in the Field again and in his 20 years was shot down at a Guard junior lieutenant Marx Ivanovich Alferov, my eleder brother who remained of 20 years forever.

In October 1943, ***6) .....*** the way from a hospital he spent 3 days with us in Sverdlovsk. I often look back and reflect on those three days: on his ***7).....(DESCRIBE)*** of the war, his youthful enthusiasm and faith in the power of science, technology and human ***8) .....(INTELLIGENT)***.

In the post-war situation I attended an only boy's school in the destroyed Minsk-city, and was lucky in having an excellent physics teacher there Yakov Borisovich Meltserson. He delivered lectures on physics for us, rather naughty boys, and we were sitting quiet and listened ***9) .....(ATTENTIVE)***. The teacher loved physics devotedly and had a gift of making our imagination work.

When finishing the school I took his advice and entered a celebrated Ul'yanov Electrotechnical Institute in Leningrad. Theoretical courses of studies were easy enough for me. It was a laboratory ***10) .....(SEARCH)*** that attracted me. Being a third-year student, I began to work in a laboratory of vacuum processes. Since that time, half a century ago, semiconductors have become main objects of my ***11).....(SCIENCE)*** interests.

The director of the Institute understood the ***12).....(IMPORTANT)*** of drawing the interests of young people to science. I remember my first attendance of the seminar on semiconductors at the Physico-Technical Institute in February 1953 as one of the most ***13).....(IMPRESS)*** events I have ever experienced.

LIVEWORKSHEETS

Since that time I have been keeping, as a most precious thing, my laboratory daily report book that contains notes of mine about the ***14).....(CREATE)*** of the first Soviet p-n transistor on the 5th of March, 1953. And now, when recalling that time I cannot help feeling proud ***15).....*** what we had accomplished.

I dreamed of working at the Physico-Technical Institute that had been founded by Abram Ioffe. His book "Fundamentals of Modern Physics" was a manual for me. Happily, three vacancies for graduates had been given to us by Ioffe's Institute. One of them fell to my lot. My joy was boundless. And may be it is this ***16).....(LUCK)*** moment that determined my happy ***17).....(SCIENCE)*** career.

In the month of May 1958, our team were asked of working out a special semiconductor device for the first Soviet atomic submarine, which had been done in a record short space of time. In the month of October, these devices were mounted on a submarine.

When we began investigating heterostructures *(гетеростpуктура),* I used to convince my young colleagues, that we were not one and only one group of ***18).....(SCIENCE)*** in the world who understood the ***19).....(SIGNIFICANT)*** of the new concept. Indeed, we were entering an era of a strong ***20).....(COMPETE)*** and the first of all were three laboratories of the biggest American companies: Bell Telephone, IBM and RCA.

We won the ***21).....(COMPETE)*** overtaking by a month a group in Bell Telephone.

Heterostructure-based solar cells were created by us as far back as 1970. And when American ***22).....(SCIENCE)*** published their early works, our solar batteries had been already mounted on the satellites and their industrial production was in full swing.

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