**1. Прочитать и перевести:**

**Vocabulary**

steam-паровой                                                 misconception-ошибочное мнение

to pump out-выкачивать                                 contribution-вклад

to determind-определять, устанавливать      density-плотность

chamber-камера                                               alternately-переменный

to admit-допускать, признавать                     attachment-приспособление

entirely-полностью, всецело                          measurement-измерение

flyball governor-центробежный регулятор   to devote-посвящать

particular-особый, исключительный             civil-гражданский

to embody-воплотить, реализовать (идею)   to improve-улучшать

**James Watt**

         James Watt was a Scottish inventor and mechanical engineer, known for his improvements of the steam engine.

Watt was born on January 19, 1736, in Greenock, Scotland. He worked as a mathematical-instrument maker from the age of nineteen and soon became interested in improving the steam engine which was used at that time to pump out water from mines.

         Watt determined the properties of steam, especially the relation of its density to its temperature and pressure, and designed a separate condensing chamber for the steam engine that prevented large losses of steam in the cylinder. Watt’s first patent, in 1769, covered this device and other improvements on steam engine.

At that time, Watt was the partner of the inventor John Roebuck, who had financed his researches. In 1775, however, Roebuck’s interest was taken over by the manufacturer Matthew Boulton, owner of the Soho Engineering Works at Birmingham, and he and Watt began the manufacture of steam engines. Watt continued his research and patented several other important inventions, including the rotary engine for driving various types of machinery; the double-action engine, in which steam is admitted alternately into both ends of the cylinder; and the steam indicator, which records the steam pressure in the engine. He retired from the firm in 1800 and thereafter devoted himself entirely to research work.

        The misconception that Watt was the actual inventor of the steam engine arose from the fundamental nature of his contributions to its development. The centrifugal or flyball governor, which he invented in 1788, and which automatically regulated the speed of an engine, is of particular interest today. It embodies the feedback principle of servomechanism, linking output to input, which is the basic concept of automation. The **watt**, the unit of power, was named in his honor. Watt was a well-known civil engineer. He invented, in 1767, an attachment that adapted telescopes for use in the measurement of distances. Watt died in Heathfield, near Birmingham, in August 1819.

 **2. Answer the questions**

   1. Who was James Watt?

   2. When did he become interested in improving the steam engine?

   3. What properties of steam did Watt determine?

   4. What did he design after these determinations?

   5. When and where did J.Watt and his partner begin the manufacture of steam engines?

   6. Can you name several important Watt’s inventions?

   7. Was Watt the actual inventor of the steam engine?

   8. What is the necessity of the flyball governor invented by Watt in 1788   nowadays?

   7. What does “the watt” mean?

**3. Circle the correct word in the sentence** (Правильное слово подчеркнуть)

   1. James Watt was a Scottish / a French inventor and mechanical engineer.

   2. At the age of nineteen Watt became interested in improving the vacuume cleaner / the steam engine.

   3. Watt determined the relation of the steam weight / density to its temperature and pressure.

   4. In 1769 J.Watt worked with the inventor / the traveler  J.Roebuck, who had financed his researches.

   5. Later James Watt patented his invention of the rotary engine for controlling driving various types of manufacturing / machinery.

   6. The flyball governor invented by Watt is automatically regulate the speed of  an engine / a telescope.

**4. Complete the sentences with one of the verb’s “*be”* forms “*was”*, “*were”,***

***“is”*or*”are”***

1. Watt ......... a well-known civil engineer.

   2. Many of Watt’s inventions ................... patented by him.

   3. John Roebuck and James Watt .................... good partners.

   4. J.Watt ....................born in 1736 in Scotland.

   5. Today the centrifugal or flyball governor .................thebasic concept of

       automation.

   5. The Scttish people ................proud of their outstanding engineer.

   6. James Watt .................known for his improvements of the steam engine.

   7. Watt’s first patent ...............the device named a separate condencing