

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) What are the major components of the refrigeration cycle?

2) _____

How does the refrigeration system work?

3) What is the difference between a pressure switch and a pressure sensor?

4) How does the air conditioning cool the inside of the vehicle?

Answer Key

Testname: AHAC8_SHORT2

- 1) The major components of a refrigeration cycle includes the compressor, condenser, expansion device and the evaporator.
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- 2) The air-conditioning (A/C) system works as follows:
 - High-pressure liquid refrigerant flows through an expansion device, which controls the amount of refrigerant that is allowed to pass through.
 - When the high-pressure liquid passes through the expansion device, the pressure drops. This causes the liquid refrigerant to evaporate in a small radiator-type unit, called the evaporator. When the refrigerant evaporates, it absorbs heat when changing from a liquid to a gas. As the heat is absorbed by the refrigerant, the evaporator becomes cold.
 - After the refrigerant has evaporated into a low-pressure gas in the evaporator, it flows into the engine-driven compressor. The compressor compresses the low pressure refrigerant gas into a high-temperature, high pressure gas and forces it through the system.
 - This high-pressure gas flows into the condenser located in front of the cooling system radiator. The condenser looks like another radiator, and its purpose and function is to remove heat from the high-pressure gas. In the condenser, the high-pressure gas changes (condenses) to form a high-pressure liquid as the heat from the refrigerant is released to the air.
 - The high-pressure liquid then flows to the expansion device, which controls the amount of refrigerant that is allowed to pass through and meters the flow into the evaporator. When the high pressure of the liquid passes through the expansion device, the pressure drops and causes the refrigerant to vaporize, starting the cycle all over again.**Page Ref: 13**
- 3) A pressure switch is either on or off, whereas a pressure sensor is variable and supplies pressure information to the PCM/BCM.
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- 4) Automotive A/C systems operate on the principle of moving heat from inside to outside of the vehicle. Heat travels from a higher temperature (higher energy level) to a lower temperature (lower energy level).
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