Automotive Technology 6th Edition Chapter 21
Name
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
1) Why is a cooling system pressurized?
2) What are 10 common causes of overheating?
3) Describe how to diagnose a heater problem.
4) What is normal operating coolant temperature?
5) Explain the flow of coolant through the engine and the radiator.

## Answer Key

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- 1) The cooling system is pressurized because under pressure, the coolant boiling temperature is increased. Page Ref: 200
- 2) Ten causes of overheating include:
  - a. low coolant level
  - b. clogged radiator
  - c. defective cooling fan
  - d. incorrect ignition timing
  - e. defective coolant pump belt
  - f. defective pressure cap
  - g. defective coolant pump
  - h. defective thermostat
  - i. frozen coolant
  - j. engine problem

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- 3) To diagnose a heater problem, first feel the radiator hoses to see that the coolant is hot enough. If the thermostat and coolant level is okay, feel the temperature of the heater hoses; both should be hot.
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- 4) Most engines are equipped with a 195 degree thermostat and as a result, will operate between 195 and 215 degrees, which is the opening point and the fully open temperature of the thermostat.

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5) The flow of coolant through the engine and the radiator starts when the thermostat opens. Coolant flows through the thermostat to the upper radiator hose and then through the radiator. After the coolant is cooled in the radiator, it is drawn into the water pump. It is then forced out and through the block and cylinder head(s) and then back to the thermostat.

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