

Name \_\_\_\_\_

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

1) How can fuel-injected engine intake manifolds be tuned to improve engine performance?

---

---

2) Why is it necessary to have intake charge velocities of about 50 feet per second?

---

---

3) What are the three main jobs of the air cleaner and filter?

---

---

---

---

4) What is a variable intake manifold?

---

---

5) How does a muffler quiet exhaust noise?

---

---

## Answer Key

Testname: ENGINES9\_SHORT 20

- 1) Intake manifold runners are tuned to improve engine performance.
  - Long runners build low-RPM torque.
  - Shorter runners provide maximum high-RPM power.

Page Ref: 282
- 2) Intake charge velocities should be about 50 feet per second as needed to keep any fuel droplets from falling out of the airstream between the throttle body and the intake valve.

Page Ref: 281-282
- 3) The three main jobs of the air cleaner and filter include:
  - Clean the air before it is mixed with fuel
  - Silence intake noise
  - Act as a flame arrester in case of a backfire

Page Ref: 279
- 4) Variable intake manifolds, commonly called a variable-length intake manifold (VLIM), allow the engine to produce a higher level of torque and horsepower over a wide range of engine speeds.

Page Ref: 282
- 5) A muffler quiets the exhaust by smoothing out the high-pressure exhaust pulses and allowing them to be released at an even and constant rate.

Page Ref: 286