

**Automotive Electrical and Engine Performance 8th Edition**  
**Chapter 14 – Engine and Misfire Diagnosis**  
**Quiz B**

1. What is the most common cause of blue exhaust smoke?
  - a. A clogged fuel injector
  - b. A leaking head gasket
  - c. Excessive fuel system pressure
  - d. Oil entering the combustion chamber through piston rings or valve seals
  
2. What tool is required to measure the compression pressure in a cranking compression test?
  - a. Oil pressure gauge
  - b. Cylinder pressure transducer
  - c. Compression gauge
  - d. Vacuum gauge
  
3. Which diagnostic method helps identify a defective exhaust valve?
  - a. Wet compression test
  - b. Cylinder leakage test
  - c. Running compression test
  - d. Idle vacuum test
  
4. What causes a rapidly fluctuating vacuum gauge needle at idle?
  - a. Worn piston rings
  - b. Worn valve guides
  - c. Incorrect air–fuel mixture
  - d. Retarded ignition timing

5. Which condition would typically trigger the oil pressure warning lamp?
- a. Oil pressure drops below 10 PSI
  - b. An excessively high oil temperature is detected
  - c. Oil pressure drops below 4-7 PSI
  - d. A restricted oil pump pickup is present
6. What is the purpose of a cylinder contribution test?
- a. To assess compression levels of each cylinder
  - b. To locate misfiring cylinders through spark testing
  - c. To monitor changes in engine speed when fuel injectors are disabled sequentially
  - d. To identify coolant leaks through exhaust gas analysis
7. What reading indicates a healthy cylinder during a cylinder leakage test?
- a. Less than 30% leakage
  - b. Less than 20% leakage
  - c. Less than 10% leakage
  - d. Less than 15% leakage
8. What does a chemical head gasket test detect?
- a. The level of coolant contamination with hydrocarbons
  - b. The presence of oxygen in the radiator
  - c. The pressure of exhaust gases within the crankcase
  - d. Oil seeping into the combustion chamber
9. Which condition is commonly diagnosed with a vacuum waveform test?
- a. Retarded ignition timing
  - b. Unequal cylinder sealing
  - c. Excessive exhaust backpressure
  - d. Clogged fuel injectors

10. What is the main purpose of using a backpressure gauge?

- a. To diagnose worn piston rings
- b. To detect restricted exhaust systems
- c. To measure compression leakage
- d. To verify the health of the intake manifold

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**Correct Answers:**

1. d

2. c

3. a

4. b

5. c

6. d

7. c

8. b

9. a

10. b