

## Automotive Engines 10th

### Quiz 27A

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

1. The timing chain in an engine uses a \_\_\_\_\_ on the \_\_\_\_\_ side of the chain to maintain correct chain tension. 1. \_\_\_\_\_
  - A) tension screw; loaded
  - B) short rod; unloaded
  - C) hydraulic tensioner; loaded
  - D) spring tensioner; unloaded
  
2. If lift and duration remain constant and the lobe center angle decreases, then \_\_\_\_\_. 2. \_\_\_\_\_
  - A) valve overlap decreases
  - B) the effective lift increases
  - C) the effective duration increases
  - D) the valve overlap increases
  
3. Two technicians are discussing an engine with an interference design. Technician A says if a valve remains open when its cylinder reaches TDC, the piston may strike the valve. Technician B says if a valve remains open when its cylinder reaches TDC, valve train damage can result. Which technician is correct? 3. \_\_\_\_\_
  - A) Technician A only
  - B) Technician B only
  - C) Both technicians A and B
  - D) Neither technician A nor B
  
4. If the exhaust valve opens at  $57^\circ$  before BDC (before dead center) and closes at  $29^\circ$  after TDC (top dead center), what is the exhaust valve duration in degrees? 4. \_\_\_\_\_
  - A) 86
  - B) 209
  - C) 237
  - D) 266
  
5. Technician A says that the camshaft turns at half of the crankshaft speed in a four-stroke cycle engine. Technician B says that the camshaft rotates at one-quarter the crankshaft speed. Which technician is correct? 5. \_\_\_\_\_
  - A) Technician A only
  - B) Technician B only
  - C) Both technicians A and B
  - D) Neither technician A nor B
  
6. Which timing chain type is also called a "silent chain"? 6. \_\_\_\_\_
  - A) Roller
  - B) Morse
  - C) Flat link
  - D) Both B and C

7. Hydraulic valve lifters can make a ticking noise when the engine is running if \_\_\_\_\_. 7. \_\_\_\_\_  
A) valve lash is too close  
B) valve lash is too loose  
C) lobe centerline is over 110°  
D) Both A and C

8. The camshaft makes \_\_\_\_\_ for every revolution of the crankshaft? 8. \_\_\_\_\_  
A) one quarter revolution  
B) one half revolution  
C) one revolution  
D) two revolutions

9. When removing the camshaft from a cam-in-block engine the technician must first remove the \_\_\_\_\_ and lifters. 9. \_\_\_\_\_  
A) pushrods  
B) oil pump  
C) exhaust manifold  
D) thermostat

10. Identify this component. 10. \_\_\_\_\_



- A) Oil pump
- B) Roller lifter
- C) Flat lifter
- D) Intake check valve

## Answer Key

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