

Name _____

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

- 1) On an engine with variable cam timing, the cam timing can be changed by use of _____. 1) _____
 - A) a spline cam phaser
 - B) a vane cam phaser
 - C) either of these
 - D) neither of these

- 2) Variable cam timing technology is used on the exhaust cam only. 2) _____
 - A) True
 - B) False

- 3) The valves could be bent if the timing belt breaks on which of these? 3) _____
 - A) Freewheeling engine design
 - B) In-block cam engine
 - C) Interference engine design
 - D) Undersquared engine

- 4) A cylinder deactivation system uses _____ to operate the system. 4) _____
 - A) magnetic induction
 - B) oil pressure
 - C) roller pumps
 - D) none of these

- 5) Flat-bottom valve lifters rotate during operation because of the _____ of the camshaft. 5) _____
 - A) taper of the lobe
 - B) thrust plate
 - C) chain tensioner
 - D) bearings

- 6) The camshaft makes _____ for every revolution of the crankshaft. 6) _____
 - A) one quarter revolution
 - B) one half revolution
 - C) one revolution
 - D) two revolutions

- 7) The intake valve opens at 39° BTDC (before top dead center) and closes at 71° ABDC (After bottom dead center). The exhaust valve opens at 78° BBDC (before bottom dead center) and closes at 47° ATDC (after top dead center). Which of these is correct regarding this cam timing? 7) _____
 - A) Intake valve duration is 110°
 - B) Exhaust valve duration is 125°
 - C) Overlap is 86°
 - D) Both A and B

- 8) Which term is used to describe the number of degrees of crankshaft rotation for which the valve is lifted off the seat? 8) _____
- A) Duration
 - B) Lift
 - C) Overlap
 - D) Underlap
- 9) Technician A says that silent chains are quieter than roller chains and do not stretch with use. Technician B says that on overhead valve engines, the camshaft is usually placed in the block above the crankshaft. Who is right? 9) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 10) 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, valvetrain damage can result. Which technician is correct? 10) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician