

Name _____

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

- 1) Some vehicle manufacturers recommend repairing integral guides with _____. 1) _____
 - A) OS stem valves
 - B) knurling
 - C) replacement valve guides
 - D) valve guide inserts

- 2) Valve _____ occurs when both valves are open at the same time at the end of the exhaust stroke and at the beginning of the intake stroke. 2) _____
 - A) collision
 - B) rotation
 - C) overlap
 - D) inversion

- 3) Which type of valve guide is most used in a cast-iron head? 3) _____
 - A) Integral
 - B) Bronze
 - C) Powdered metal (PM)
 - D) Thin-wall sleeve type

- 4) Which of these statements is TRUE about surface finish? 4) _____
 - A) Cast-iron surfaces should be smoother than aluminum surfaces.
 - B) The rougher the surface, the higher the microinch finish measurement.
 - C) The smoother the surface, the higher the microinch finish measurement.
 - D) A cylinder head should be much smoother than a crankshaft journal.

- 5) To help ensure proper engine cooling, most cylinder head designs use _____. 5) _____
 - A) long exhaust ports and short intake ports
 - B) short exhaust ports and long intake ports
 - C) large exhaust crossover passages
 - D) coolant passages restricted by head gaskets

- 6) The use of a knurling tool is being described. After the knurling tool displaces the metal inside the guide, a _____ is run through the guide to produce a restored, serviceable valve guide. 6) _____
 - A) reamer
 - B) drill bit
 - C) file
 - D) ball gauge

- 7) Which of these operations should be performed first? 7) _____
 - A) Installing replacement guides
 - B) Resurfacing the head
 - C) Grinding the valves
 - D) Grinding the seats

- 8) Pressed-in valve _____ are used in aluminum heads 8) _____
- A) guides
 - B) seat inserts
 - C) springs
 - D) both A and B
- 9) For lowest hydrocarbon emissions, which of these engine design features is used? 9) _____
- A) Low combustion chamber surface-to-volume ratio
 - B) High combustion chamber surface-to-volume ratio
 - C) Non-centrally mounted spark plug
 - D) Increased (as much as possible) quench area
- 10) The gasket surface of a cylinder head, as measured with a precision straightedge, should have a maximum variation of _____. 10) _____
- A) 0.002 inch in any 6-inch length or 0.004 inch overall
 - B) 0.001 inch in any 6-inch length or 0.004 inch overall
 - C) 0.020 inch in any 10-inch length or 0.020 inch overall
 - D) 0.004 inch in any 10-inch length or 0.008 inch overall

Answer Key

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1) A

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2) C

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3) A

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4) B

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5) B

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6) A

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7) B

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8) D

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9) A

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10) A

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