

Name \_\_\_\_\_

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

- 1) A splayed crankshaft is a crankshaft that \_\_\_\_\_. 1) \_\_\_\_\_  
A) is externally balanced  
B) is internally balanced  
C) has offset main bearing journals  
D) has offset rod journals
- 2) Crankshaft journals are checked for which of these? 2) \_\_\_\_\_  
A) Out of Round  
B) Taper  
C) Both A and B  
D) Neither A nor B
- 3) Technician A says primary vibration is created by the slight differences in the inertia of the pistons between top dead center and bottom dead center. Technician B says secondary vibration is a strong low-frequency vibration caused by the movement of the piston traveling up and down in the cylinder. Who is right? 3) \_\_\_\_\_  
A) Technician A only  
B) Technician B only  
C) Both technicians  
D) Neither technician
- 4) Technician A says that most crankshafts can be reground to be 0.010, 0.020, or 0.030 inch undersize. Technician B says that most engine bearings are constructed with an aluminum shell for strength and are covered with a tin-lead alloy. Who is right? 4) \_\_\_\_\_  
A) Technician A only  
B) Technician B only  
C) Both technicians  
D) Neither technician
- 5) Technician A says balance shafts are used to counteract vibration created in the engine. Technician B says proper balancing of the engine is important for smooth operation. Who is right? 5) \_\_\_\_\_  
A) Technician A only  
B) Technician B only  
C) Both technicians  
D) Neither technician
- 6) If bearing-to-journal clearance is doubled, how much oil will flow? 6) \_\_\_\_\_  
A) One-half as much  
B) The same amount if the pressure is kept constant  
C) Double the amount  
D) Four times the amount

- 7) Why does a 4-cylinder engine have very little, if any, primary vibration? 7) \_\_\_\_\_  
A) Uses a splayed crankshaft  
B) Two cylinders fire at the same time, reducing the primary vibration  
C) Two pistons traveling upward at the same time two pistons are traveling downward  
D) Bore is small, reducing the primary vibration
- 8) Typical journal-to-bearing clearance is \_\_\_\_\_. 8) \_\_\_\_\_  
A) 0.00015 to 0.00018 inch  
B) 0.0005 to 0.0025 inch  
C) 0.150 to 0.250 inch  
D) 0.020 to 0.035 inch
- 9) A typical V-8 engine crankshaft has \_\_\_\_\_ main bearings. 9) \_\_\_\_\_  
A) three  
B) four  
C) five  
D) seven
- 10) A four-cylinder engine fires one cylinder at every \_\_\_\_\_ degrees of crankshaft rotation. 10) \_\_\_\_\_  
A) 270  
B) 180  
C) 120  
D) 90

## Answer Key

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1) D

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2) C

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3) D

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4) A

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5) C

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6) D

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7) C

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8) B

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9) C

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10) B

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