

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) What is the displacement of a six-cylinder diesel engine with a 4-inch bore and a 4-inch stroke?

2) If an engine at sea level produces 100 HP, how many horsepower would it develop at 6,000 feet of altitude?

3) What is the difference between an indirect and a direct injection diesel engine?

4) What is the difference between an overhead-camshaft engine and a cam-in-block engine?

5) What is the difference between torque and power?

Answer Key

Testname: LVDE1_SHORT1

1) The formula is:

Cubic inch displacement = π (pi) \times R² \times Stroke \times Number of cylinders 3.14×4 (2 squared) $\times 4 \times 6 = 301.4$ cubic inches

Page Ref: 7

2) A non-supercharged or non-turbocharged engine loses about 3% of its power for every 1,000 feet (300 m) of altitude. Therefore, if an engine can create 100 HP at sea level, the same engine can only create about 82 HP at 6,000 feet (3% \times 6 = 18%).

Page Ref: 9

3) In an older indirect injection engine, fuel is injected into a small pre-chamber, which is connected to the cylinder by a narrow opening. In a direct injection (DI) diesel engine, fuel is injected directly into the cylinder.

Page Ref: 4-5

4) When the camshaft is located in the block, the valves are operated by lifters, pushrods, and rocker arms. This type of engine is called a pushrod engine, a cam-in-block engine, or an overhead valve (OHV) engine. Some engine designs place the camshaft or shafts in the cylinder head; these are called overhead camshaft-type engines.

Page Ref: 6

5) Torque is the term used to describe a rotating force that may or may not result in motion. The term power means the rate of doing work. Power equals work divided by time. Work is achieved when a certain amount of mass (weight) is moved a certain distance by a force.

Page Ref: 8