

Name \_\_\_\_\_

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

1) How does the computer monitor catalytic converter performance?

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2) How does the computer control the purging of the vapor canister?

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3) What components are used in a typical evaporative emission control system?

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4) What exhaust emissions do the PCV valve and SAI system control?

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5) How does the DPFE sensor work?

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6) How does the use of exhaust gas reduce NOX exhaust emission?

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7) How does a catalytic converter reduce NOX to nitrogen and oxygen?

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## Answer Key

Testname: AEEP8\_SHORT42

- 1) The PCM monitors catalytic converters efficiency by checking the downstream oxygen sensor switch rates to the switch rate of the upstream oxygen sensor. If the switch rates are similar, the catalytic converter efficiency is low.  
Page Ref: 654
- 2) The computer controls the purging of the vapor canister by turning on and off the purge solenoid.  
Page Ref: 660
- 3) The components in a typical evaporative emission control system include the carbon canister, purge valve, vent valve, and connecting hoses and connections.  
Page Ref: 658
- 4) Both PCV and SAI systems are used to reduce HC and CO emissions.  
Page Ref: 646; 650
- 5) Most Fords use an EGR monitor test sensor called a delta pressure feedback EGR (DPFE) sensor. This sensor measures the pressure differential between two sides of a metered orifice positioned just below the EGR valve's exhaust side. Pressure between the orifice and the EGR valve decreases when the EGR opens because it becomes exposed to the lower pressure in the intake. The DPFE sensor recognizes this pressure drop, compares it to the relatively higher pressure on the exhaust side of the orifice, and signals the value of the pressure difference to the PCM.  
Page Ref: 644
- 6) Recirculating a small percentage of the exhaust gases back into the intake, results in reduced combustion temperatures. The exhaust gases are chemically inert and do not enter into the combustion process.  
Page Ref: 640
- 7) As the exhaust gas passes through the catalyst, oxides of nitrogen (NO<sub>x</sub>) are chemically reduced (i.e., nitrogen and oxygen are separated) in the reduction section of the catalytic converter.  
Page Ref: 653