Individual Test Item Specifications

9504120- Automotive Maintenance & Light Repair 3

2015

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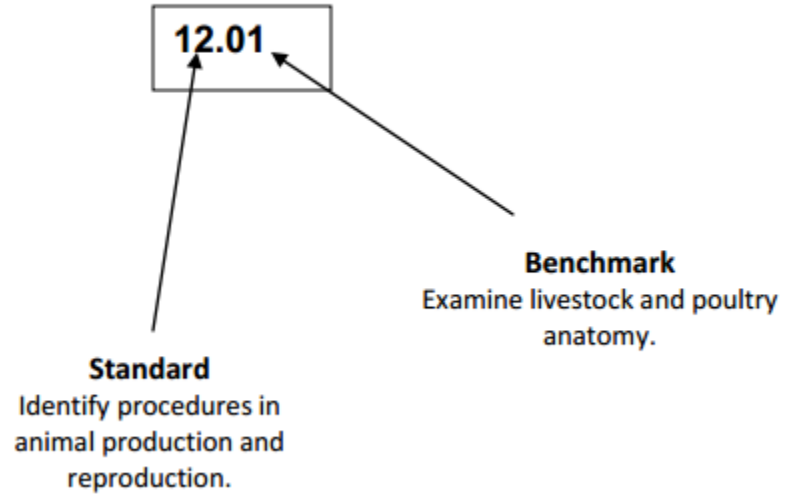
I. Guide to the Individual Benchmark Specifications

Content specific guidelines are given in the *Individual Benchmark Specifications* for each course. The *Specifications* contains specific information about the alignment of items with the Florida Standards. It identifies the manner in which each benchmark is assessed, provides content limits and stimulus attributes for each benchmark, and gives specific information about content, item types, and response attributes.

Benchmark Classification System

- Each Career and Technical Education course has its own set of course standards. The benchmarks are organized numerically, with two numbers separated by a decimal point. The first number is the standard number, and the second number is the benchmark number. You will see these numbers on the Item Specifications for each course.

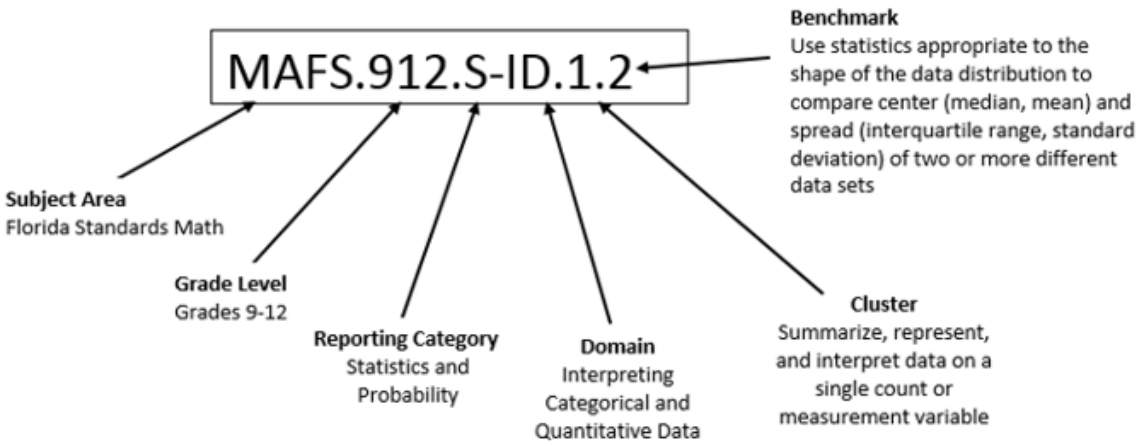
An example, from Agritechnology 1:



The image above describes the components of a Career and Technical Education Standard and Benchmark classification system.

Each MAFS benchmark is labeled with a system of letters and numbers.

- The four letters in the *first position* of the label identify the **Subject**.
- The number(s) in the *second position* represents the **Grade Level**.
- The letter(s) in the *third position* represents the **Category**.
- The number in the fourth position shows the **Domain**.
- The number in the *fifth position* identifies the **Cluster**.
- The number in the last position identifies the specific **Benchmark**.



The image above describes the components of a Florida Standard and Benchmark classification system.

Definitions of Benchmark Specifications

The *Individual Benchmark Specifications* provides standard-specific guidance for assessment item development for the Florida Department of Education Career and Technical Education item banks. For each benchmark assessed, the following information is provided.

Reporting Category	is a grouping of related benchmarks that can be used to summarize and report achievement.
Standard	refers to the standard statement presented in the Florida Standards.
Benchmark	refers to the benchmark statement presented in the Florida Standards. In some cases, two or more related benchmarks are grouped together because the assessment of one benchmark addresses another benchmark.
Item Types	are used to assess the benchmark or group of benchmark.
Cognitive Complexity	ideal level at which item should be assessed.
Benchmark Clarifications	explain how achievement of the benchmark will be demonstrated by students. In other words, the clarification statements explain what the student will do when responding to questions.
Content Limits	define the range of content knowledge and that should be assessed in the items for the benchmark.
Stimulus Attributes	define the types of stimulus materials that should be used in the items, including the appropriate use of graphic materials and item context or content.
Response Attributes	define the characteristics of the answers that a student must choose or provide.
Content Focus	addresses the broad key terms and concepts associated with the examples found in the standards, benchmarks, or benchmark clarifications.
Sample Items	are provided for each type of question assessed. The correct answer for all sample items is provided.

II. Individual Benchmark Specifications

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.04 Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	M
Benchmark Clarification	The student will inspect rack and pinion inner tie rod ends and bellows boots.
Content Focus	Rack and pinion, steering gear, inner tie rod end, bellows boot, play
Content Limits	Items may include manufacturer approved methods only related to passenger vehicles and light duty trucks. Items should not include hybrid or any alternative fuel vehicle.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the vehicle provided in the service bay, inspect the inner tie rod ends for play. Make a recommendation for repair.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.05 Determine proper power steering fluid type; inspect fluid level and condition. SC.912.P.8.2
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will inspect and determine the proper type, level, and condition of power steering fluid.
Content Focus	None Specified
Content Limits	Items may include power steering systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	Stimulus attributes may include but are not limited to images, graphs, diagrams, and charts.
Response Attributes	None Specified
Sample Item	Using service information (SI), determine the type of fluid recommended by the manufacturer for a 2012 Dodge Charger. Print out the specification and provide it to your instructor.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.11 Inspect tie rod ends (sockets), tie rod sleeves, and clamps.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	L
Benchmark Clarification	The student will inspect inner and outer tie rod ends and determine needed repair
Content Focus	Inner tie rod, outer tie rod, bellows, boots, clamps, sleeves.
Content Limits	Items may include steering systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	Stimulus attributes may include but are not limited to images, graphs, diagrams, and charts.
Response Attributes	None Specified
Sample Item	On the vehicle provided in the service bay, inspect the tie rod ends for play. Make a recommendation for repair.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.19 Inspect strut cartridge or assembly.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)=X (P)=X (ER)=
Cognitive Complexity Level	M
Benchmark Clarification	The student will inspect strut cartridge and assembly and determine needed action.
Content Focus	Mount, strut, cartridge, bearing
Content Limits	Items mayinclude struts systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	What are two ways to inspect strut? Sample response: You can inspect a strut by looking at it for visible signs of leaks. You can also perform a bounce test to determine its effectiveness.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.26 Describe the function of the power steering pressure switch. LAFS.1112.W.1.2A, B, C, D, E, F; 2.6 LAFS.1112.L.1.2B
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will describe the function of the power steering pressure switch.
Content Focus	None Specified
Content Limits	Items may include steering systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	Stimulus attributes may include but are not limited to images, graphs, diagrams, and charts.
Response Attributes	None Specified
Sample Item	What are two functions of the power steering pressure switch? Sample response: The power steering pressure switch helps to ease parking lot manuevering and to increase stability at highway speeds.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.28 Perform pre-alignment inspection and measure vehicle ride height; perform necessary action. MAFS.912.G-C0.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will inspect a vehicle and identify work needed prior to an alignment
Content Focus	Ride height
Content Limits	Items may include steering systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	Stimulus attributes may include but are not limited to images, graphs, diagrams, and charts.
Response Attributes	None Specified
Sample Item	On the vehicle provided, perform a pre-alignment inspection and determine what, if any, issues need to be corrected.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.32 Measure front wheel toe; adjust as needed. MAFS.912.G-C0.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	H
Benchmark Clarification	The student will perform wheel toe in and toe out adjustments.
Content Focus	Toe
Content Limits	Items may include steering systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the light duty truck provided, measure the front toe. Adjust the toe if necessary. Print out the before and after readings.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.37 Inspect tire condition; identify tire wear patterns; check of correct tire size and application (load and speed rating) and adjust air pressure; determine necessary action. LAFS.1112.W.2.4, 6 LAFS.1112.L.1.2B
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will inspect tire condition, wear patterns, size, air pressure, proper application, and determine necessary action.
Content Focus	Speed rating, load rating, manufacture recommendation
Content Limits	Items may include tires related to passenger vehicles and light duty trucks.
Stimulus Attributes	Stimulus attributes may include but are not limited to images, graphs, diagrams, and charts.
Response Attributes	None Specified
Sample Item	What are two types of tire wear patterns and their associated causes? Sample response: Feather edge wear is caused by toe angle out of specifications. Center wear is caused by tire overinflation.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.39 Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic).
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	M, H
Benchmark Clarification	The student will balance wheel and tire assembly.
Content Focus	Wheel balancer, static imbalance, dynamic imbalance, wheel weight
Content Limits	Items may include tires related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the wheel assembly provided, dismount the tire, inspect the tire, remount the tire on the rim, then balance the tire.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.41 Inspect tire and wheel assembly for air loss; perform necessary action.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	L
Benchmark Clarification	The student will inspect tire for air loss and determine needed repair
Content Focus	None Specified
Content Limits	Items may include tires related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	Inflate the wheel assembly to the proper inflation. Using the spray bottle containing soapy water, saturate the tire with the solution. Inspect for air bubbles which signifies a leak.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.42 Repair tire using internal patch.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will repair a tire using an internal patch.
Content Focus	None Specified
Content Limits	Items may include tires related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	The tire provided has a nail in it. Remove the nail and patch the tire using an internal patch.

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.43 Identify and test pressure monitor system (indirect and direct) for operation; verify operation of instrument panel lambs. LAFS.1112.RI.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will identify and test all types of tire pressure monitor systems.
Content Focus	Indirect tire pressure monitor system, Direct tire pressure monitor system,
Content Limits	Items may include tire pressure monitor systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	John's car has the tire light on. He has an indirect tire pressure monitoring system (TPMS). How will John reset the tire light? A. magnet B. reset button C. scan tool D. special tool Answer B

Standard	12.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires –The student will be able to:
Benchmark	12.44 Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=
Cognitive Complexity Level	L
Benchmark Clarification	The student will describe how to remove and replace a tire pressure monitor sensor.
Content Focus	None Specified
Content Limits	Items may include tire pressure monitor systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	When replacing a stem mounted tire pressure sensor, what must be recorded before installing the new sensors? A. identification number B. model number C. part number D. sensor manufacturer Answer A

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.03 Describe procedures for performing a road test to check brake system operation; including an antilock brake system (ABS). LAFS.1112.SL.2.4, 6
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will properly describe procedures for performing a road test to check brake and antilock brake system operation.
Content Focus	Brake pad burnishing, anti-lock brakes (ABS),
Content Limits	Items should be dentification only, and are not to include any operation of any vehicle or any hands on lab work or any type of actual or live work on any vehicle.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	What are two braking conditions that can be felt on a road test? Sample response: While road testing a vehicle technicians should notice any types of pedal pulsations or noises while stepping on the brakes.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.04 Install wheel and torque lug nuts. MAFS.912.N-Q.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will install wheels and wheel fasteners and tighten to manufactures specifications.
Content Focus	None Specified
Content Limits	Items may include tires and wheels related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the vehicle provided in the service bay, install the wheels and torque the lug nuts in the proper sequence.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.07 Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; check for loose fittings and supports; determine necessary action.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will inspect a vehicle and identify needed repairs for the brake line system.
Content Focus	None Specified
Content Limits	Items may include brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	Perform an inspection of the brake lines, hoses, and fittings. Notate any concerns and make a recommendation for repair.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.09 Identify components of brake warning light system. LAFS.1112.RI.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will identify components of a brake warning light system.
Content Focus	None Specified
Content Limits	Items may include brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	What are the names of two components that control the brake warning light? Sample response: The parking brake turns on the brake light and the low fluid switch located in the brake fluid reservoir does as well.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.17 Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; perform final checks and adjustments.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M, H
Benchmark Clarification	The student will pre-adjust brake shoes, and install drums. The student will perform final checks and adjustments.
Content Focus	Brake spoon, drum gauge, shoe setting caliper
Content Limits	Items may include rake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the vehicle provided in the service stall, use the shoe setting caliper to pre-adjust the rear brake shoes.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.20 Remove, inspect, and replace pads and retaining hardware; determine necessary action. LAFS.1112.W.2.4, 6 LAFS.1112.L.1.2B
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will remove, inspect, and replace brake pads and hardware and determine required action.
Content Focus	None Specified
Content Limits	Items may include brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	Which of the following is not required when replacing brake pads? A. anti-rattle clips B. grease on the friction C. lubricate pins D. shims Answer B

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.22 Clean and inspect rotor; measure rotor thickness, thickness variation, and lateral run out; determine necessary action. LAFS.1112.W.2.4, 6 LAFS.1112.L.1.2B MAFS.912.N-Q.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)=X (ER)=
Cognitive Complexity Level	L, M, H
Benchmark Clarification	The student will remove clean and check a brake rotor.
Content Focus	Brake rotor micrometer, lateral run out
Content Limits	Items may include brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	What are two reasons technicians measure brake rotors? Sample respone: Technicians measure the rotor to determine if it is within minimum thickness specifications. Technicians also measure a rotor to determine if it is warped.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.25 Refinish rotor off vehicle; measure final rotor thickness and compare with specifications. MAFS.912.N-Q.1.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	L, M, H
Benchmark Clarification	The student will machine a rotor and determine if it is within specifications after machining.
Content Focus	Brake lathe, machining, refinishing, refacing, turning
Content Limits	Brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the vehicle provided, remove one brake rotor and turn it on the brake lathe. Once turning is complete, measure the rotor and compare it with specifications.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.28 Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendations. LAFS.1112.W.2.4, 6; SC.912.P.10.1
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will demonstrate knowledge of proper brake pad break in procedure after brake pad replacement.
Content Focus	Burnish, break in, curing
Content Limits	Items should be identification only and should not include any operation of any vehicle or any hands on lab work or any type of actual or live work on any vehicle.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	What are two reasons technicians should burnish the brake pads? Sample response: Burnishing transfers material to the rotor which aids in better stopping. Burnishing also helps to burn off the glue when the pads are new.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.29 Check brake pedal travel with, and without engine running to verify proper power booster operation.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)= (ER)=
Cognitive Complexity Level	L
Benchmark Clarification	The student will check proper brake pedal feel to verify power booster operation.
Content Focus	Brake booster, vacuum
Content Limits	Items may include brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	Tina is stepping on the brake pedal and the vacuum reserve has been depleted. What should happen to the brake pedal once the vehicle is started? A. the pedal should remain firm B. the pedal should move down slightly C. the pedal should move down then up D. the pedal should move down and get stuck Answer A

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.34 Check operation of brake stop light system. SC.912.P.10.15
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)= (P)=X (ER)=
Cognitive Complexity Level	L, M
Benchmark Clarification	The student will properly check brake light system.
Content Focus	None Specified
Content Limits	Items may incldue brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	On the vehicle provided in the stall, check the stop light operation. Notate if any bulbs are not working.

Standard	13.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems--The student will be able to:
Benchmark	13.37 Identify traction control/vehicle stability control system components.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	L
Benchmark Clarification	The student will identify components of a vehicle traction control/stability control system.
Content Focus	EBTCM, yaw sensor, lateral accelerometer, wheel speed sensor, steering angle sensor
Content Limits	Items may include brake systems related to passenger vehicles and light duty trucks.
Stimulus Attributes	None Specified
Response Attributes	None Specified
Sample Item	Which of the following is not used in traction control systems? A. ABS pump B. EBTCM C. wheel speed sensor D. yaw rate sensor Answer D