



4-H BICYCLE SAFE DRIVING SKILL RODEO HANDBOOK

4-H 492



Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Maryland System, and local governments. Thomas A. Fretz, Director of Cooperative Extension Service, University of Maryland System.

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Thanks are given to Ms. Denise Freberthausen, Mr. James Kahler, Dr. David Ross, and Ms. Kendra Wells for reviewing the manuscript of this publication. Also, thanks are given to Ms. Janet Woodruff for the word processing and formatting to give us a final product

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Bicycle Safe-Driving-Skill Rodeo Handbook

Objectives of the 4-H Bicycle Project

To encourage youth to

- Develop leadership skills, good character, and good citizenship.
- Be aware of the many recreational and healthful applications of cycling.
- Understand the rules of the road, community ordinances pertaining to bicycles, and the importance of obeying these laws.
- Develop the bicycle driving skills needed to safely operate a bicycle.
- Develop a clear knowledge of bicycle safety and attitudes leading to proper driving behavior.
- Learn elementary bicycle care and maintenance and how to select a bicycle that best fits the size and needs of the driver.
- Support opportunities for community service.

Events of a Bicycle Safe-Driving-Skill Rodeo

1. A written examination containing questions developed from “Bike Rules” from the Maryland Department of Transportation, “The Best Bicyclist on Earth”, as well as other bicycle publications.
2. A practical examination to measure the participant’s ability to detect unsafe mechanical conditions of the bicycle and to test knowledge of the names and functions of bicycle parts.
3. A bicycle safety and maintenance inspection performed on participants’ bicycles to measure knowledge, skills, and attitude toward the subjects.
4. A driving skills analysis involving up to 10 separate courses designed to test the participant’s safe bicycle-driving skills.

Event I—Written Examination

Procedure

Drivers will take a written exam consisting of 40 multiple choice and true-false questions developed from “The Best Bicyclist on Earth”, “Bike Rules” from the Maryland Department of Transportation, and bicycle owners’ manuals or other acceptable bicycle publications.

Scoring

The number of questions missed multiplied by five equals the total number of penalty points.

Time limit

30 minutes

Event 2—Practical Examination

Part 1 – Bicycle Parts Identification

Procedure

Cyclists will be asked to identify 10 parts of a bicycle as described in the bicycle literature. A list of parts as shown on page 3 may be provided.

Scoring

Number of parts not identified multiplied by five equals the total number of penalty points.

Time limit

5 minutes

Part 2 – Safety Maintenance Fault Identification (optional)

Note: This is a very educational but time-consuming exercise; eliminate this part if there are a large number of participants and a short amount of time.

Procedure

Officials will secure one or more bicycles that have recognizable unsafe equipment or conditions. Defective areas and conditions may include tires, rims, spokes, brakes, frame, fork, handlebars, grips, seat, sprockets, chains, pedals, and cleanliness. Bicycles with five to eight such defects should be used. If examples of each are available, cyclists could choose to identify defects on either a 10-speed or a single-speed bicycle. Each participant will be given a fixed amount of time to list all defective items. Only one participant is allowed at the inspection station at a time.

Scoring

Number of unsafe items either missed or improperly identified multiplied by 10 to 12 (depending on the number of known unsafe items, to a total of 100 penalty points) equals the total number of penalty points.

Time limit

5 minutes for up to 10 problems

Part 3 – Bicycle Safety Inspection

Procedure

Using the bicycle inspection form on page 5, contest officials will inspect the participant's bicycle for safety features, mechanical condition, and driver fit.

Scoring

Number of unsafe elements found multiplied by 5 equals the total number of penalty points.

Time limit

The amount of time allowed for the inspection is to be determined by the officials. Approximately 2 to 4 minutes should be allowed per bicycle and driver.

Bicycle Parts Identification

Name _____

Number _____

Jurisdiction _____

Class _____

Instructions

1. All contestants
 - a) Write the tag number on the line to the left of the most correct name for each part.
 - b) Give other information (size, position, type, etc.) where space is provided after the name.

_____ Axle _____
 _____ Axle Nut _____
 _____ Axle Wrench _____
 _____ Bearing _____
 _____ Bearing Cone _____
 _____ Bearing Race _____
 _____ Bearing Set Wrench _____
 _____ Bell _____
 _____ Brace _____
 _____ Brake Arm _____
 _____ Brake Caliper _____
 _____ Brake Lever _____
 _____ Brake Pad _____
 _____ Brake Shoe _____
 _____ Cable _____
 _____ Cable Carrier _____
 _____ Chain _____
 _____ Chain Stay _____
 _____ Crank _____
 _____ Crank Arm _____
 _____ Crank Hanger _____
 _____ Derailleur _____
 _____ Down Tube _____
 _____ Dust Cap _____
 _____ Fender (Mud Guard) _____
 _____ Fender Support Bracket _____
 _____ Frame _____
 _____ Front Fork _____
 _____ Gear Cluster _____
 _____ Grip _____
 _____ Handlebar _____
 _____ Handlebar Stem _____
 _____ Head Tube (Head Set) _____

_____ Horn _____
 _____ Hub _____
 _____ Jockey Wheel _____
 _____ Light _____
 _____ Mirror _____
 _____ Pedal _____
 _____ Pivot Bolt _____
 _____ Quick Release Nut _____
 _____ Rear Frame Fork _____
 _____ Reflector _____
 _____ Saddle _____
 _____ Seat Clamp _____
 _____ Seat Post _____
 _____ Seat Post Clamp _____
 _____ Seat Stay _____
 _____ Seat Tube _____
 _____ Shifting Lever _____
 _____ Spoke _____
 _____ Spoke Wrench _____
 _____ Sprocket _____
 _____ Stand _____
 _____ Tension Roller _____
 _____ Tire _____
 _____ Top Tube _____
 _____ Tube, Tire _____
 _____ Valve Core _____
 _____ Valve Stem Cap _____
 _____ Wheel Rim _____

_____ x 5 = _____
 Incorrect penalty points

Bicycle Safety Inspection

Name _____

Number _____

Jurisdiction _____

Class _____

CLASS ENTRY VERIFICATION

JUNIORS (ages 8-10 as of
January 1)
Class 1—8 years of age
Class 2—9 years of age
Class 3—10 years of age

INTERMEDIATES (ages 11-13 as
of January 1)
Class 4—11 years of age
Class 5—12 years of age
Class 6—13 years of age

SENIORS (ages 14-18 as
of January 1)
Class 7—14 years of age
Class 8—15 or 16 years of age
Class 9—17 or 18 years of age

	<u>NO</u>	<u>YES</u>		<u>NO</u>	<u>YES</u>
HELMET			REAR WHEEL (cont.)		
ASTM- or SNELL-approved.	___	___	Tire is properly seated on rim.	___	___
Properly fitted.	___	___	Tire is properly inflated.	___	___
SIZE			Tire tread in good condition.	___	___
Driver can straddle frame with both feet on the ground.	___	___	Wheel is centered in fork.	___	___
Driver can straighten leg when seated on the saddle with one heel on the low pedal.	___	___	PEDALS		
Seat post is in frame at least 2 inches.	___	___	Pedal bearing is properly adjusted.	___	___
Seat (saddle) is level and tight.	___	___	Pedals are intact and tight.	___	___
HANDLEBARS			Pedal treads are intact and tight.	___	___
In line with front wheel and symmetrical.	___	___	CHAIN		
Adjusted to height below the driver's shoulder level.	___	___	Chain tension is correct (3/8- to 1/2-inch play).	___	___
Tightly fitted, horizontally and vertically.	___	___	Sprocket teeth fit properly.	___	___
Tubing ends are plugged.	___	___	Chain is in good condition.	___	___
Grips are in place and tight.	___	___	Multispeed Bike: Gear change operates properly.	___	___
FRAME			BRAKES		
Tubes are all in line without bends or kinks.	___	___	Brakes operate properly.	___	___
Front fork is in good condition.	___	___	<u>Hand Brakes:</u>		
Head set bearing is O.K.	___	___	Cables are taut, without frayed ends.	___	___
FRONT WHEEL			Brake shoes are tight.	___	___
Wheel runs true, side to side and round.	___	___	Three-sixteenths of an inch of rubber on shoes.	___	___
All spokes are in place and properly tuned.	___	___	Calipers are properly centered.	___	___
Rim is free from dents or kinks.	___	___	Hand span for handlebar brake is correct for the individual.	___	___
Wheel bearing is properly adjusted.	___	___	OTHER EQUIPMENT		
Tire is properly seated on rim.	___	___	Saddle is tight and in good condition.	___	___
Tire is properly inflated.	___	___	All reflectors are in place and in good condition	___	___
Tire tread is in good condition.	___	___	.		
Wheel is centered in fork.	___	___	<u>If Equipped for Night Riding:</u>		
REAR WHEEL			Front and rear lights operate.	___	___
Wheel runs true, side to side and round.	___	___	The lights are of the proper type.	___	___
All spokes are in place and properly tuned.	___	___	Audible warning device is in place and working.	___	___
Rim is free from dents or kinks.	___	___	Rider is wearing an approved helmet.	___	___
Wheel bearing is properly adjusted.	___	___			

Special remarks by inspector (deficiencies to be corrected)

_____ x 5 = _____

Event 3 – Safe Driving Skills

Procedure

Cyclists may use any standard bicycle that is of proper size. ("Trick" bicycles are not allowed.) Bicycles may be single- or multispeed, but must be in safe operating condition. Speed tests are not included in this program.

Course markings may be made of lime, chalk, or paint. Two-inch squares of 1/2-inch-thick plywood painted a highly visible color make excellent course markers.

Lines should be a minimum of 2 inches wide unless otherwise indicated.

All dimensions should be measured from the inside edges of lines.

Participants will complete up to 10 driving skill tests conducted on level ground, preferably pavement. All cyclists in the same class will complete the same series of skill tests. The order of driving will be established by officials.

Safety

Cyclists must maintain control of their bicycles at all times and wear properly fitted ASTM- or SNELL-approved bicycle helmets while driving a bicycle on or off the test course. Cyclists are to be seated on the bicycle while riding on or off the test course.

Scoring

Each driving-skill test has its own set of scoring criteria (see the following pages).

In driving skill tests where the contestants might keep the bicycle wheels outside of the course boundaries for long distances, penalty points will be given for briefly touching/crossing the boundary and for being off course for a major part of the 5-foot interval before the wheels return inside the course boundary. The course can be marked by cross lines at 5-foot intervals to aid scoring.

Participants who engage in unsafe or disruptive activity will be penalized 20 to 500 points or disqualified at the discretion of the judges in consultation with the rodeo coordinator or superintendent. Such activity may include failure to follow instructions to walk the bike between tests, to park the bike in a designated area between tests, or to not ride in areas where other contestants are competing, etc. Make sure instructions are understood before the event begins.

All decisions by the judges are final.

Event 3

Test I – Straight Line

Name _____

Number _____

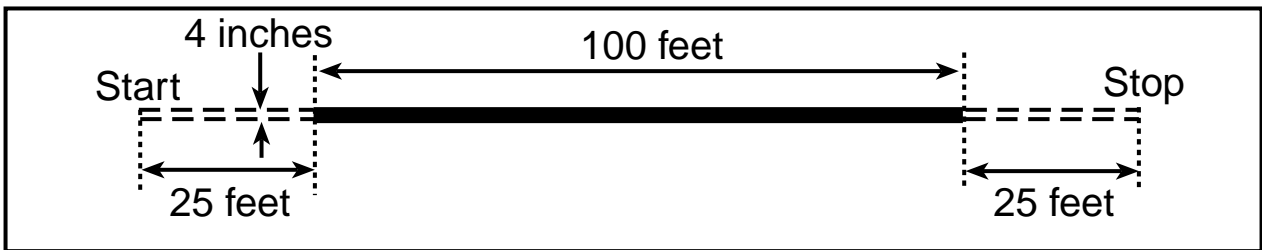
Jurisdiction _____

Class _____

Purpose

To determine the driver's ability to maintain control of the bicycle while driving a straight line.

Diagram



Procedure

From a driving start at slow or average speed, the driver travels the entire length of the line with both tires touching it at all times.

Scoring

	Number of Times	Penalty Points
1. Having either tire briefly leave the line	_____ x 2 =	_____
2. Tire stays off course for major part of 5-foot interval	_____ x 5 =	_____
3. Touching foot to the ground	_____ x 5 =	_____
4. Stopping	_____ x 8 =	_____
5. Sliding wheel	_____ x 5 =	_____
6. Expending an excessive amount of energy (e.g., driver unsteadiness)	3	_____
7. Unsafe or disruptive activity*	20–500	_____
Total number of penalty points		_____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 2—Pedaling and Braking

Name _____

Number _____

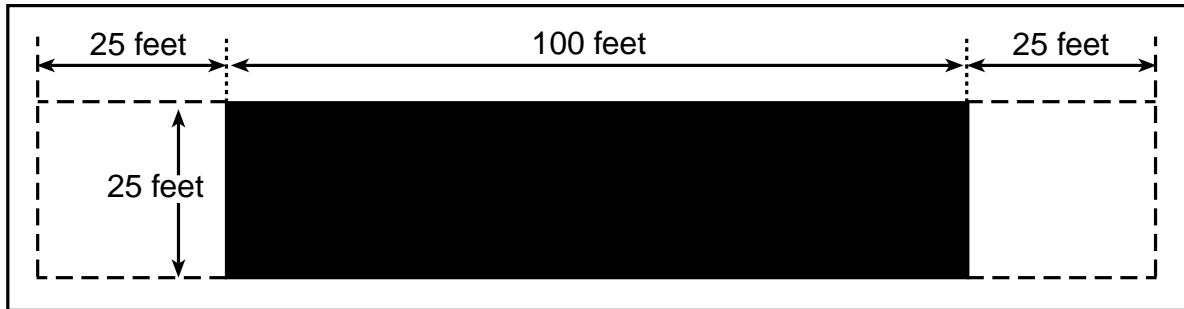
Jurisdiction _____

Class _____

Purpose

To have the driver demonstrate proper pedaling and braking techniques.

Diagram



Procedure

The driver mounts and travels 100 feet at an average driving speed. The driver then dismounts and parks the bicycle.

Scoring

	Number of Times	Penalty Points
1. Pedal cranks are not approximately parallel to the ground when braking (does not apply to hand brakes)	_____	x 5 = _____
2. Rear wheel skid	_____	x 5 = _____
3. Front wheel skid (hand brakes)	_____	x 10 = _____
4. Bicycle does not stop approximately 10 feet from point where brakes were initially applied (1 point for each foot more or less—maximum 8 points)		(1–8) _____
5. Balls of the feet not kept on pedals while driving		5 _____
6. Driver dismounts incorrectly		8 _____
7. Driver parks bicycle incorrectly		8 _____
8. Expending an excessive amount of energy (e.g., driver unsteadiness)		3 _____
9. Unsafe or disruptive activity*		20–500 _____

Total number of penalty points _____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 3 – Balance on a Straight Line

Name _____

Number _____

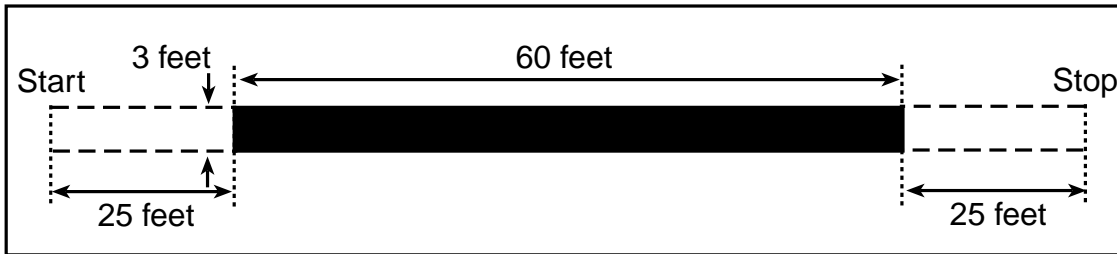
Jurisdiction _____

Class _____

Purpose

To test the balance of the driver.

Diagram



Procedure

The driver starts from a standstill with the front wheel at the end of the lane and drives very slowly through the lane in *not less* than 30 seconds, with neither tire touching the lines on either side.

Scoring

	Number of Times	Penalty Points	
1. Touching foot to ground	_____	x 5 =	_____
2. Wheels touch line on either side	_____	x 5 =	_____
3. Tire stays off course for major part of 5-foot interval	_____	x 10 =	_____
4. Completing course in less than 30 seconds (1 point per each second less than 30—maximum 8)		(1-8)	_____
5. Using brakes excessively		5	_____
6. Unsafe or disruptive activity*		20-500	_____
Total number of penalty points			_____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 4 – Turning Around

Name _____

Number _____

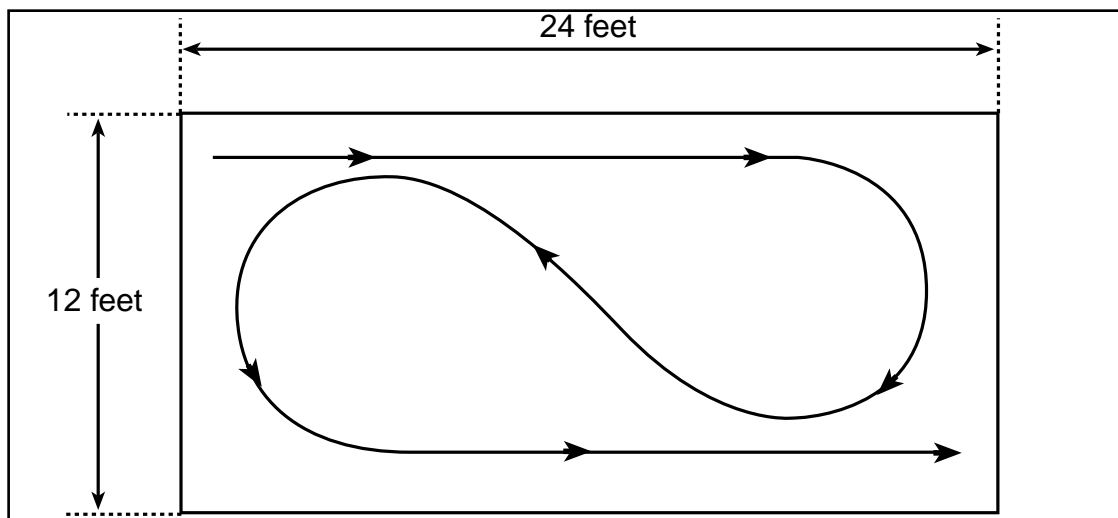
Jurisdiction _____

Class _____

Purpose

To have the driver demonstrate the ability to turn around easily and smoothly within a limited area.

Diagram



Procedure

The driver travels along the left side of the 12-foot-wide lane, turns clockwise, and goes in the opposite direction. Driver crosses the lane diagonally, goes along the right side of the lane and turns counterclockwise giving proper signals for all turns. The driver exits at far end of the lane.

Scoring

	Number of Times	Penalty Points
1. Touching foot to ground	_____ x 5	= _____
2. Failure to give signals	_____ x 5	= _____
3. Improper signals given	_____ x 10	= _____
4. Touching any boundary line with wheels	_____ x 5	= _____
5. Off course—out of rectangular area	_____ x 20	= _____
6. Failure to make smooth and easy turns	5	_____
7. Using brakes excessively	5	_____
8. Unsafe or disruptive activity*	20-500	_____

Total number of penalty points _____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 5 – Emergency Turn and Stop

Name _____

Number _____

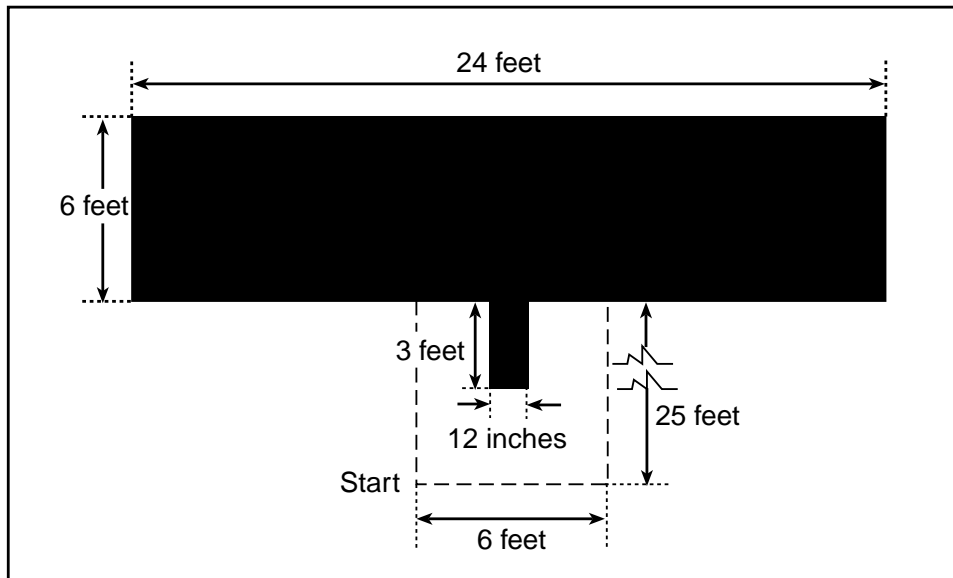
Jurisdiction _____

Class _____

Purpose

To test the driver's ability to run and stop within a limited area.

Diagram



Procedure

The driver starts 22 feet away from entrance to the course to reach an average speed. The driver enters the 12-inch-wide lane at average speed, turns to the right without either wheel cutting the corner of the lane, and comes to a stop within the 6-foot-wide lane. The cyclist then repeats the test with a left turn and stop.

Scoring

	Number of Times	Penalty Points
1. Touching foot to ground	_____	x 5 = _____
2. Having either tire touch or cross any boundary line	_____	x 5 = _____
3. Skidding wheel	_____	x 5 = _____
4. Losing control of bicycle	_____	x 10 = _____
5. Unsafe or disruptive activity*	20-500	_____

Total number of penalty points _____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 6 – Figure-Eight Steering

Name _____

Number _____

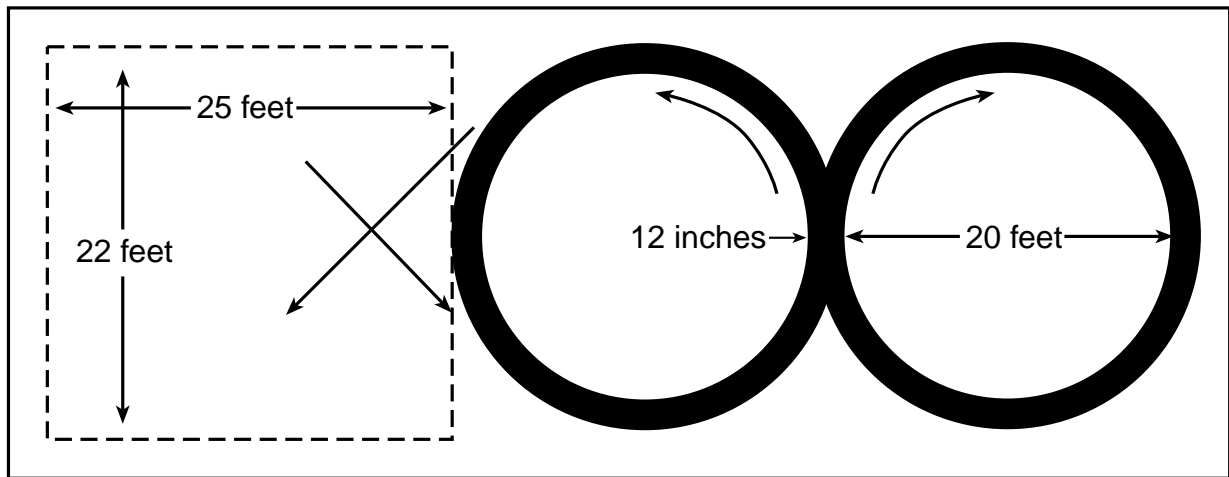
Jurisdiction _____

Class _____

Purpose

To evaluate the driver's ability to steer on a figure-eight course.

Diagram



Procedure

The driver takes a moving start with both hands on the handlebars, enters the course, and makes three complete figure eights.

Scoring

	Number of Times	Penalty Points
1. Touching foot to ground	_____	x 5 = _____
2. Not using both hands on the handle bars	_____	x 5 = _____
3. Having either tire touch or cross a boundary line	_____	x 2 = _____
4. Off course—either or both tires—per 5 foot interval	_____	x 5 = _____
5. Using brakes excessively	5	_____
6. Expending an excessive amount of energy (e.g., driver unsteadiness)	3	_____
7. Unsafe or disruptive activity*	20-500	_____

Total number of penalty points _____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 7 – Figure-Eight Balance

Name _____

Number _____

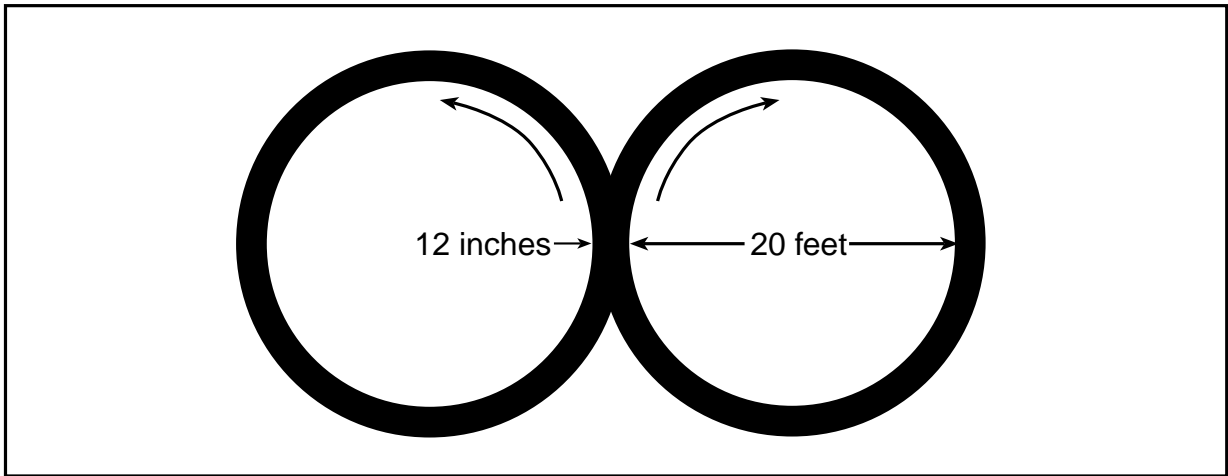
Jurisdiction _____

Class _____

Purpose

To test the balance of the driver on a figure-eight course.

Diagram



Procedure

The driver starts from a standstill at a designated point in the figure eight and drives very slowly in the lane through the figure eight making one complete pattern in not less than 45 seconds, without touching any border line.

Scoring

	Number of Times	Penalty Points
1. Touching foot to ground	_____	x 5 = _____
2. Having either tire touch or cross a boundary line	_____	x 2 = _____
3. Off course—either one or both tires—per 5-foot interval	_____	x 5 = _____
4. Completing course in less than 45 seconds (1 point per each second less than 45—maximum 8)	(1–8)	_____
5. Using brakes excessively	5	_____
6. Unsafe or disruptive activity*	20-500	_____
Total number of penalty points		_____

*At the judges' discretion; consultation with rodeo coordinator or superintendent required.

Event 3

Test 8 – Single Obstacle

Name _____

Number _____

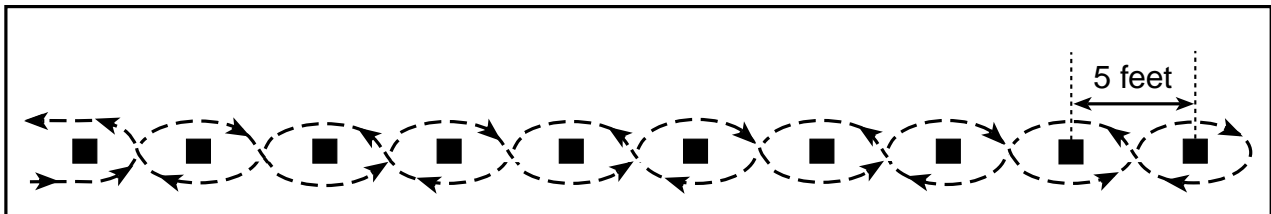
Jurisdiction _____

Class _____

Purpose

To test the ability of the driver to maneuver in close quarters.

Diagram



Procedure

The driver starts from a position behind the course so that balance is secured before the first obstacle is reached. The driver passes the first obstacle on the right and follows a serpentine course in and out among the rest. When the last obstacle has been passed, the driver returns weaving as before.

Scoring

	Number of Times		Penalty Points
1. Touching foot to ground	_____	x 5 =	_____
2. Having either tire touch an obstacle	_____	x 2 =	_____
3. Passing obstacle on wrong side with either one or both tires	_____	x 5 =	_____
4. Skidding wheel	_____	x 10 =	_____
5. Using brakes excessively		5	_____
6. Expending an excessive amount of energy (e.g., driver unsteadiness)		3	_____
7. Unsafe or disruptive activity*		20-500	_____
Total number of penalty points			_____

*At the judges' discretion, consultation with rodeo coordinator or superintendent required.

Event 3

Test 9 – Double Obstacle

Name _____

Number _____

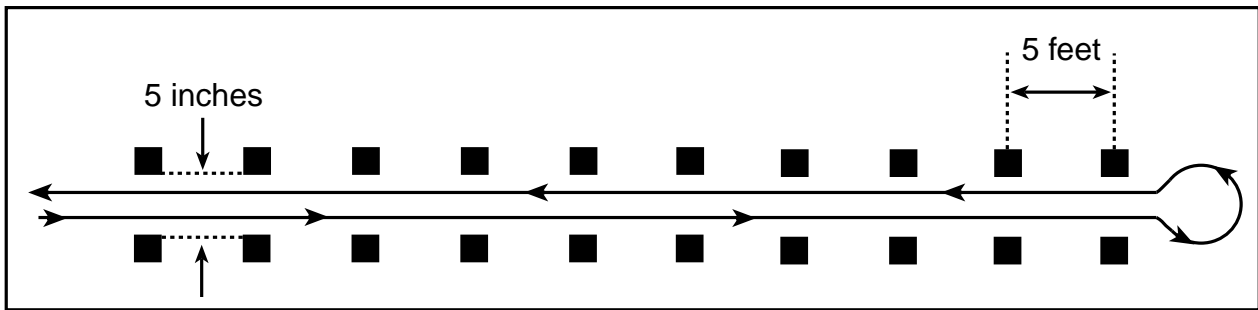
Jurisdiction _____

Class _____

Purpose

Determine the driver's ability to gauge limited space on a straight line.

Diagram



Procedure

From a driving start, the driver maneuvers slowly between the pairs of obstacles without touching any of them with either wheel. When the driver has gone the entire distance, he or she turns and repeats the performance in the opposite direction.

Scoring

	Number of Times	Penalty Points
1. Touching foot to ground	_____	x 5 = _____
2. Having either tire touch an obstacle	_____	x 2 = _____
3. Not passing between every pair of obstacles—either one or both tires	_____	x 5 = _____
4. Skidding wheel	_____	x 10 = _____
5. Using brakes excessively		5 _____
6. Expending an excessive amount of energy (e.g., driver unsteadiness)		3 _____
7. Unsafe or disruptive activity*	20-500	_____

Total number of penalty points _____

*At the judges' discretion, consultation with rodeo coordinator or superintendent required.

Event 3

Test 10 – Double Zig-Zag Obstacle

Name _____

Number _____

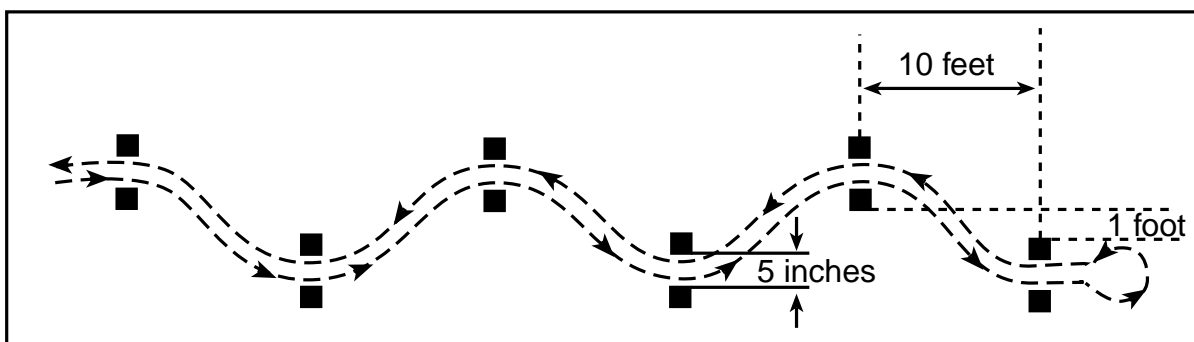
Jurisdiction _____

Class _____

Purpose

Test the driver's ability to gauge limited space on a zigzag line.

Diagram



Procedure

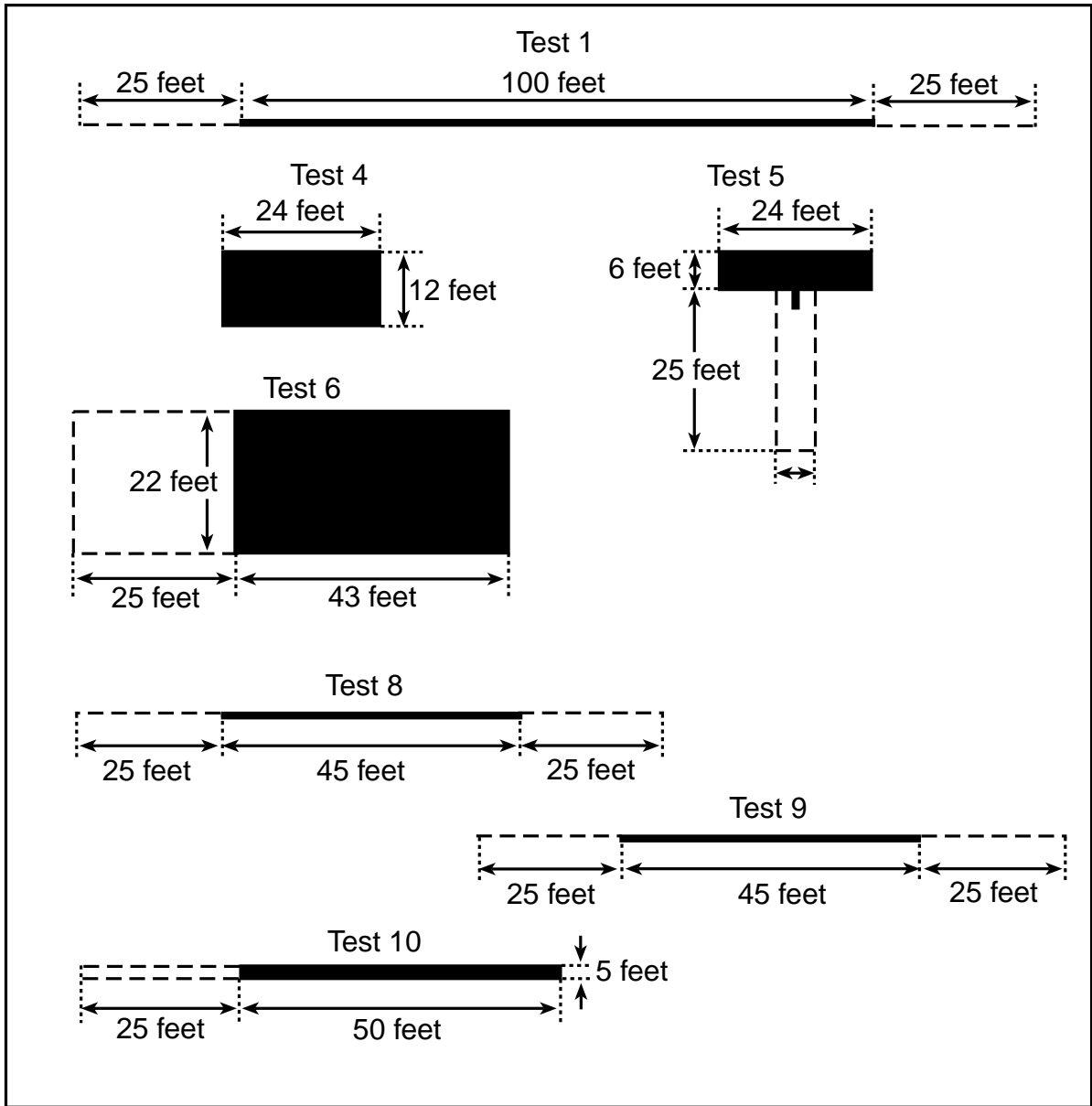
From a driving start, the cyclist zigzags at a slow rate of speed between the pairs of obstacles without touching any of them with either tire. When the driver has traveled the entire distance, he or she turns and repeats the performance in the opposite direction.

Scoring

	Number of Times	Penalty Points
1. Touching foot to ground	_____	x 5 = _____
2. Having either tire touch an obstacle	_____	x 2 = _____
3. Not passing between every pair of obstacles with either one or both tires	_____	x 5 = _____
4. Skidding wheel	_____	x 10 = _____
5. Using brakes excessively	5	_____
6. Expending an excessive amount of energy (e.g., driver unsteadiness)	3	_____
7. Unsafe or disruptive activity*	20-500	_____
Total number of penalty points		_____

*At judges' discretion; consultation with rodeo coordinator or superintendent required.

Suggested course layout for a statewide bicycle event.



Tests 8, 9, and 10 need a 25-foot clearance at each end for starting and stopping. If the tests are lined up next to one another, the clearance space can be shared.

Eligibility in Statewide Events

All participants must qualify as follows:

1. Participants must enroll in and be active in a 4-H bicycle project.
2. Participants must compete in a 4-H age classification (age as of January 1 of current year):
 Juniors 8–10,
 Intermediates 11–13,
 Seniors 14–18
3. Participants must be selected through the county 4-H office for participation at a State event.
4. State winners from previous years are not eligible to compete in the age classification in which they previously won.

Maryland Bicycle Requirements

The bicycle is classified as a vehicle in Maryland. Bicycles have the same requirements and restrictions as motor vehicles, with these exceptions: (a) are prohibited from expressways and certain other controlled access highways; (b) are prohibited from all toll facilities; (c) are prohibited from operating on the travel lanes when posted speed limit is greater than 50 mph; and (d) along any other highways must use shoulder area or bike lane if they are paved with a smooth surface. (For additional information, request “Bicycle Prohibitions” and “Access to Toll Bridges” brochures. Bicycle Affairs Coordinator, Maryland State Highway Administration, 707 North Calvert Street, P.O. Box 717, Baltimore, Md. 21202, (800) 252-8776.)

On all public highways where cycling is allowed, the operator must

- obey all traffic signs, signals, and other traffic control devices;
- ride with vehicular traffic as near to the right of the roadway or shoulder, if any, as practical;
- use standard arm signals to alert others of your intentions;
- yield to pedestrians;
- move to the right and stop for emergency vehicles;
- stop for loading and unloading school buses when warning lights are flashing; and
- obey applicable traffic laws, particularly no passing on the right.

Legally the bicycle itself must be equipped with at least the following:

- brakes that make the braked wheel skid on dry, clean pavement;
- an audible device (bell or horn);
- a rear red reflector; and
- if ridden at night, a white beam headlight.

In addition, we strongly encourage use of a bicycle helmet, rearview mirror, and red taillight.

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