

Tractor Driving CDE

(rev. Oct-2019)

Purpose

The purpose of the Tractor Driving Career Development Event is for FFA Members to demonstrate their knowledge, skills, and proficiencies related to the safe operation, maintenance and driving skills of a tractors and skid steer loaders.

Eligibility

This event is held during the Delaware State Fair. It is open to all high school FFA chapters and FFA members in good standing. The two (2) FFA Members designated for this event must be certified by the respective local advisor. He/She must attend a mandatory practice event in order to be eligible to compete in the event. Members that have participated in a previous regional event in this area are ineligible.

Event Procedures

- A. Only the (2) FFA Chapter Tractor/Equipment Operating participants that are certified by their respective local advisor and has attended the **mandatory** practice event is eligible to compete in this contest.
- B. Waivers, including Delaware FFA Waiver and The Big E waiver must be presented at check-in in order to compete. FFA Members will not be allowed to compete without waivers due to the operation of large equipment for safety reasons.
- C. Appropriate Dress: FFA T-shirt with sleeves (It must say FFA on the shirt), long pants, belt, and work shoes are **required**. It is recommended that long hair be pulled up and jewelry is taken off. Gloves are optional. Shirt should be tucked in for safety.
- D. It is recommended that you bring the following:: At least two (2) pencils, Clipboard, and non-programmable calculator. All other equipment will be provided.
- E. Each contestant must complete all events.

F. Participants will not be allowed to possess any personal electronic devices (i.e. cell phones, smart watches, air pods, etc) other than those approved by event officials. Participants who possess personal electronic devices without prior approval of the event officials will be disqualified from the event.

G. Excessive tractor brake steering will disqualify the contestant.

H. Contestants will be disqualified if they are observed not following safety standards, which may endanger themselves or the public.

I. Contestants will be disqualified if they do not wear their seat-belt while operating the equipment.

J. Contestants will be disqualified if they do not adhere to the designated path through the course.

K. Tractors and equipment will be provided for each event. All contestants will use the same tractor and piece of equipment provided at that event.

L All persons other than the judges, the scorers and the contestants will be barred from the contest area during the contest.

M. The Chair(s) in charge of this contest will select judges and scorers.

N. In case any situation occurs that is not covered in the rules, the decision of the judges will be final.

Event Format

- A. The contest will consist of five (5) parts, each of which will be scored separately: written test, tools/tractor parts ID, a two-wheeled manure spreader event, a four-wheeled trailer event, tractor loader event **OR** skid-loader event.
- B. Written Test:
 1. The written test will include up to fifty (50) questions centered on the skill, safe operation and operator maintenance of tractor.
 2. A total of 30 minutes will be allotted for the members to complete the test. The written test will be administered in the bleachers at the arena, so clipboards should be provided by the student's advisor.
 3. Refer to SAFE OPERATION OF AGRICULTURAL EQUIPMENT (Student Manual from HOBAR PUBLICATIONS (800) 846-7027) for possible questions.
 4. The test will include true-false, completion and/or multiple-choice questions.

Example: 1. T _____ F _____

Example: 2. Check the _____ in air cleaners once daily.

Example: 3. All grease fittings should be

A. Well cited

B. Painted periodically

C. greased on schedule

5. Each question answered incorrectly or left unanswered will be valued at ten (10) points.

(500 points possibly added to overall score)

- C. Tools/Tractor Parts ID: 10 minutes allotted---administered outside the "ring"
 1. Each contestant will be given 10 minutes to identify mechanic tools and tractor parts from a gas or diesel tractor. Up to 30 tools and parts will be identified. They may include a torque wrench, open-end wrench, flywheel, piston, starter, etc. Contestants will choose from a bank of answers.
 2. The identification section will be administered outside of the show ring.
 3. Refer to www.snap-on.com, www.valu-bilt.com, or www.craftsman.com.
 4. Each answer missed or left unanswered will be valued at ten (10) points.

(300 points possibly added to overall score)

- D. Operating Skills Events:
 1. The next 4 events (a two-wheeled manure spreader event, a four-wheeled trailer event, tractor loader event **OR** skid-loader event) will test the skill and ability of the contestant to operate Skid-loaders, tractors, and equipment safely.
 2. Each contestant will start off with a visual inspection of Skid-loader, tractor and equipment. Judges will expect a verbal response.
 3. The contestant will follow the course outlined by the judge (see attached illustrations.)
 4. Each event is given a total of 10 minutes to be completed. Time starts on a signal from the judge and stops when the contestant returns to original point.

5. The contestant will be allowed ten minutes for each event. The contestant will be notified at eight minutes that two minutes are left. If the contestant does not finish the event in ten **(10)** minutes, the judge will stop them and a **500-point** deduction will be added to their score.
6. Excessive tractor brake steering will disqualify the contestant.
7. Contestants may be disqualified if they are observed not following safety standards, which may endanger themselves or the public.
8. A 30-60 hp compact diesel tractors are typically used in these events. Manufacturers may include John Deere, CASE IH, NEW Holland, Kubota, Bobcat, Gehl and other tractors/Skid-Loader.
9. The Skid loader and Loader tractor event will be held every year.
 - a. The Tractor Loader event will involve loading mulch or other similar material.
 - b. The Skid-Steer event will use pallet forks to move loaded pallets around a course. One pallet will have four **(4)**, five-gallon buckets of sand, while the other has one **(1)** five-gallon bucket of water!

NOTE: CONTESTANTS WILL BE STOPPED BY THE JUDGE WAVING A RED FLAG IF IT IS FELT THAT THE CONTESTANT IS NOT IN FULL CONTROL OF THE SKID-LOADER OR TRACTOR AND SAFETY OF THE OPERATOR AND JUDGES ARE JEOPARDIZED! CONTESTANTS WILL RECEIVE A 500 POINT DEDUCTION!

Scoring

The contestant with the lowest deductions will be the winner. In other words, low score wins. Refer to the scorecards in this section to see the possible deductions in each event.

Tiebreakers

Tie breakers will be as follows: 1) test score 2) parts I.D. score 3) four-wheeled event score 4) two-wheeled event score 5) loader tractor/skid loader event score.

Awards

Awards will be presented to individuals based upon their rankings at the State Fair FFA Awards Breakfast. The first place individual will represent Delaware at Big E.

Top three (3) individuals will be awarded a trophy sponsored by the local equipment dealers and a gold, silver and bronze pin to be placed on your official FFA jacket.

Top ten (10) individuals will be announced.

References

Possible websites for tools identification:

www.snap-on.com,
www.valu-bilt.com,
www.craftsman.com,
 4-H Engineering

Possible websites/key word searches for tractors parts id:

John Deere,
 Hooper, Inc.
 CASE IH,
 New Holland,
 4-H Engineering

Website for safety instructions/review

www.bobcat.com

HOSTA Training— use as resource, sample test, etc.

Delaware FFA Safe Tractor/ Equipment Operating Career Development Event

Score Sheet Two Wheeled Manure Spreader Event

Contestant Name/Number: _____

Chapter: _____

BEFORE STARTING TRACTOR (verbal response)

Deductions

Check fuel and oil gauge	_____ X	10
Check brakes - depress brake pedal with engine running, tractor in gear	_____ X	10
Check tires - by sight only	_____ X	10
Check hazards - dirt, grease, tools, improper attachments, etc	_____ X	10
Check safety belts	_____ X	10
Check ROPS	_____ X	25

STARTING

Transmission not in Neutral/ Park	_____ X	25
Brakes not set	_____ X	25
Clutch not disengaged	_____ X	15

OBSTACLE COURSE

For each time tractor or manure spreader touches obstacles or lines	_____ X	50
For each time tractor or manure spreader knocks down obstacles or crosses lines	_____ X	100
For each unnecessary change of direction (forward or backward)	_____ X	50

BACKING MANURE SPREADER INTO THE ALLEY

Number of inches over three (3) inches from the back of the stall	_____ X	10
Number of inches off center in the front	_____ X	10
Number of inches off center in the rear	_____ X	10
For each time tractor or manure spreader touches obstacles or lines	_____ X	50
For each time tractor or manure spreader knocks down obstacles or crosses lines	_____ X	100
For each unnecessary change of direction (forward or backward)	_____ X	50

JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

Improper mount/dismount	_____ X	50
Failure to use seat belt	_____ X	25
Failure to set brakes when getting off/or put in Park	_____ X	50
Sliding or spinning tires, brake steering	_____ X	100
Rough clutch engagement	_____ X	25
Clashing of gears when shifting	_____ X	25
Stalling of the engine	_____ X	10
Excessive engine speed	_____ X	25
Excessive tractor speed	_____ X	50
Standing while tractor is moving	_____ X	100
Moving tractor with brakes on	_____ X	25
Failure to put in gear or park when getting off with engine stopped	_____ X	50
Riding the clutch	_____ X	25
Any unsafe conduct while on or around tractor	_____ X	25
Fouling equipment (touching spreader w/tractor wheel)	_____ X	50
Rubbing hard	_____ X	75

Sub Total of Deductions _____

If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction**.

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To this add the subtotal for deductions to get the final score of the contestant.

TIME _____ **Deduction** _____ **+Sub Total** _____ **=TOTAL** _____

Delaware FFA Safe Tractor/ Equipment Operating Career Development Event
Score Sheet Four-Wheel Trailer Event

Contestant Name/Number: _____

Chapter: _____

BEFORE STARTING TRACTOR (verbal response)

Deductions

Check fuel and oil gauge	_____ X	10
Check brakes - depress brake pedal with engine running, tractor in gear	_____ X	10
Check tires - by sight only	_____ X	10
Check hazards - dirt, grease, tools, improper attachments, etc	_____ X	10
Check safety belts	_____ X	10
Check ROPS	_____ X	25

STARTING

Transmission not in Neutral/ Park	_____ X	25
Brakes not set	_____ X	25
Clutch not disengaged	_____ X	15

HITCHING TRACTOR TO FOUR WHEEL WAGON (NOT SCORED IN DE)

(Hitching taken out-not done at state level)

TRAILER HANDLING

For each time tractor or trailer touches obstacles or lines	_____ X	50
For each time tractor or trailer knocks down obstacles or crosses lines	_____ X	100
For each unnecessary change of direction (forward or backward)	_____ X	50
For each time tractor fouls equipment (touching trailer tongue with tractor tire, sliding trailer wheels sideways)	_____ X	50

TRAILER PLACEMENT IN SHED

For each inch off center at the front of trailer	_____ X	10
For each inch off center at the rear of trailer	_____ X	10
For each inch off from rear of stall over (3) inches	_____ X	10

PARKING TRACTOR AT FINISH LINE

Failure to set brakes	_____ X	50
Failure to place transmission in gear or park	_____ X	50
Failure to reduce throttle	_____ X	10

JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

Improper mount/dismount	_____ X	50
Failure to use seat belt	_____ X	25
Failure to set brakes when getting off/or put in Park	_____ X	50
Sliding or spinning tires, brake steering	_____ X	100
Rough clutch engagement	_____ X	25
Clashing of gears when shifting	_____ X	25
Stalling of the engine	_____ X	10
Excessive engine speed	_____ X	25
Excessive tractor speed	_____ X	50
Standing while tractor is moving	_____ X	100
Moving tractor with brakes on	_____ X	25
Failure to put in gear or park when getting off with engine stopped	_____ X	50
Riding the clutch	_____ X	25
Any unsafe conduct while on or around tractor	_____ X	25
Fouling equipment (touching spreader w/tractor wheel)	_____ X	50
Rubbing hard	_____ X	75

Sub Total of Deductions _____

If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction**.

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To this add the subtotal for deductions to get the final score of the contestant.

TIME _____ **Deduction** _____ **+Sub Total** _____ **=TOTAL** _____

Delaware FFA Safe Tractor/ Equipment Operating Career Development Event

Score Sheet Skid-Steer Event

Contestant Name/Number: _____

Chapter: _____

BEFORE STARTING SKID LOADER (verbal response)

Deductions

Check fuel and oil gauge	_____ X	10
Check brakes - depress brake pedal with engine running, tractor in gear	_____ X	10
Check tires - by sight only	_____ X	10
Check hazards - dirt, grease, tools, improper attachments, etc	_____ X	10
Check safety belts/harness	_____ X	10

STARTING

Improper mount/dismount	_____ X	50
Seat belts or safety harness not on	_____ X	50
Throttle set too high	_____ X	25

LOADING

For touching line or obstacle (with skid-steer or forks)	_____ X	50
For crossing or knocking down obstacles	_____ X	100
For each unnecessary change of direction (forward or backwards)	_____ X	50
Traveling with forks too high	_____ X	50
Excessive speed going into pallets	_____ X	50
Moving pallets (more than four (4) inches)	_____ X	50
Improper use of forks while loading	_____ X	50

NAVIGATING COURSE

Excessive water loss from bucket (more than three (3) inches)	_____ X	50
Tipping bucket of water off pallet	_____ X	300
**** Operator must return to bucket station to get a new full bucket		
Carrying load at unsafe height	_____ X	50
Pallet #1 not squarely on pallet #2	_____ X	25
Excessive speed over obstacle	_____ X	50
Pallets not squarely on platform	_____ X	25
Unsafe speed approaching platform	_____ X	50
Excessive bucking on turns and going over obstacles	_____ X	50

PARKING SKID-LOADER AT FINISH LINE

Failure to reduce throttle	_____ X	10
Forks not completely down	_____ X	50

JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

Failure to operate skid loader safely	_____ X	100
Excessive skid- steer speed	_____ X	50

Sub Total of Deductions _____

If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction**.

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To this add the subtotal for deductions to get the final score of the contestant.

TIME _____ **Deduction** _____ **+Sub Total** _____ **=TOTAL** _____

Delaware FFA Safe Tractor/ Equipment Operating Career Development Event
Score Sheet Tractor Loader Event

Contestant Name/Number: _____

Chapter: _____

BEFORE STARTING TRACTOR (verbal response)

Deductions

Check fuel and oil gauge	_____X	10
Check brakes - depress brake pedal with engine running, tractor in gear	_____X	10
Check tires - by sight only	_____X	10
Check hazards - dirt, grease, tools, improper attachments, etc	_____X	10
Check safety belts	_____X	10
Check ROPS	_____X	25

SARTING

Transmission not in Neutral/ Park	_____X	25
Brakes not set	_____X	25
Clutch not disengaged	_____X	15

LOADING

For touching line or obstacle (with tractor or loader)	_____X	50
For crossing or knocking down obstacles	_____X	100
For each unnecessary change of direction (forward or backwards)	_____X	50
Traveling with loader too high	_____X	50
Excessive speed going into pile	_____X	50
Moving load barrier	_____X	50
Improper use of bucket while loading	_____X	50
Not a full bucket of material	_____X	25

DUMPING LOAD

Carrying load at unsafe height	_____X	100
Unsafe speed approaching dumping area	_____X	50
Hitting or damaging dumping barrier	_____X	100
Bucket not completely empty	_____X	25

PARKING TRACTOR AT FINISH LINE

Failure to set brakes	_____X	50
Failure to place transmission in gear or park	_____X	50
Failure to reduce throttle	_____X	10
Bucket not completely down	_____X	50

JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

Failure to use seat belt	_____X	25
Failure to set brakes when getting off/or put in Park	_____X	50
Sliding or spinning tires, brake steering	_____X	100
Rough clutch engagement	_____X	25
Clashing of gears when shifting	_____X	25
Stalling of the engine	_____X	10
Excessive engine speed	_____X	25
Excessive tractor speed	_____X	50
Standing while tractor is moving	_____X	100
Moving tractor with brakes on	_____X	25
Failure to put in gear or park when getting off with engine stopped	_____X	50
Riding the clutch	_____X	25
Any unsafe conduct while on or around tractor	_____X	25

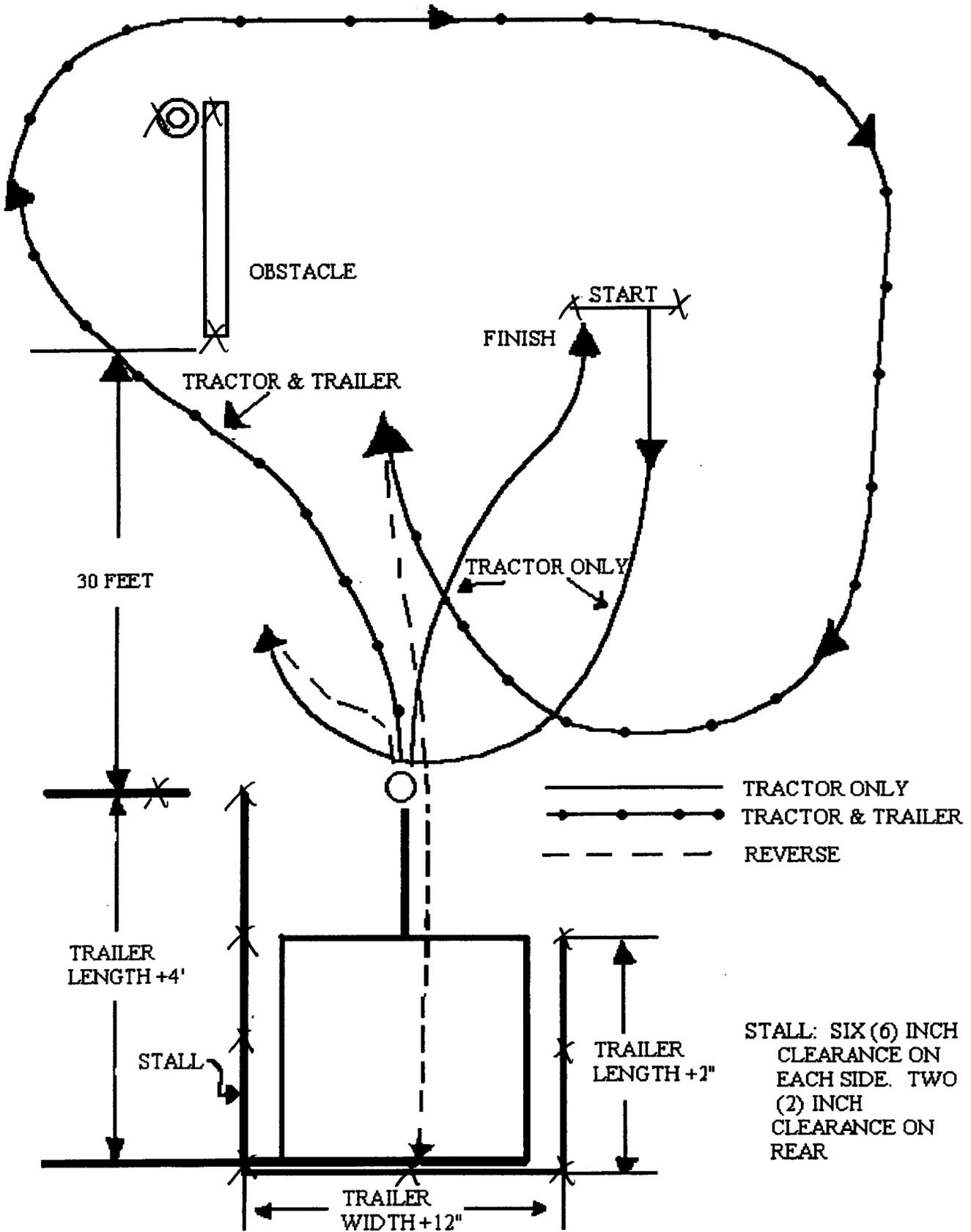
Sub Total of Deductions _____

— If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction**.

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

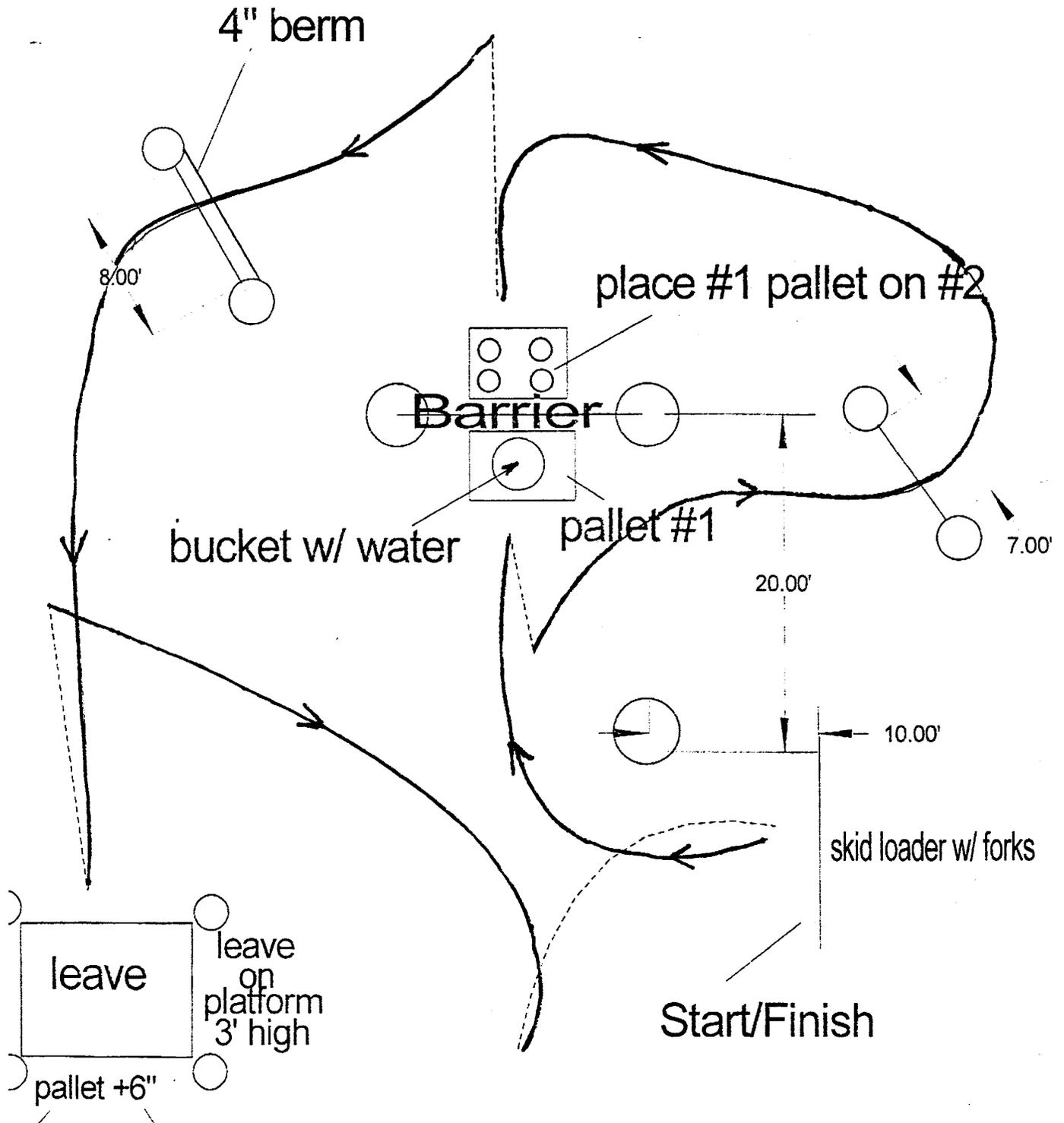
To this add the subtotal for deductions to get the final score of the contestant.

COURSE LAYOUT - FOUR WHEEL TRAILER EVENT

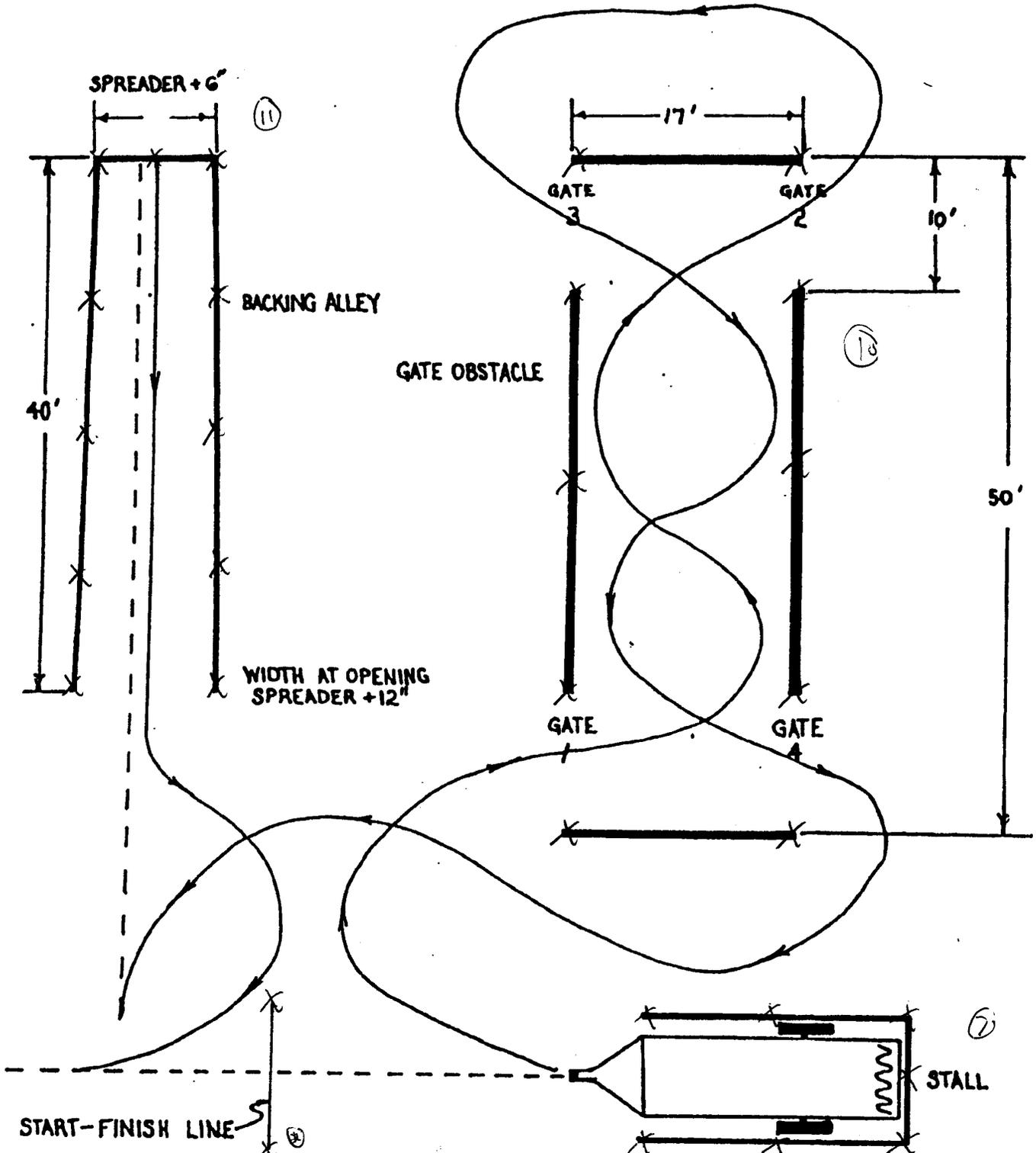


SKID-STEER EVENT

Forward 
Reverse 



COURSE LAYOUT - TWO WHEEL MANURE SPREADER EVENT



1, 2, 3 AND 4 - GATES 10 FEET WIDE
 BOARD ACROSS END OF STALL
 AT BEATER HEIGHT
 DOTTED LINES INDICATE
 REVERSE MOVEMENT

3" CLEARANCE ON ALL
 SIDES & THE END OF STALL

TRACTOR LOADER EVENT

