

Read each statement and determine if it is true or false. If it is true, write “T” in the blank. If it is false, write “F” in the blank. (1pt each)

1. **T** DRIVE TEAMS may pre-load one (1) BOULDER in or on their ROBOT such that the BOULDER is fully supported by their ROBOT. **See Section 3.2**
2. **F** BOULDERS that exit the FIELD over a GUARDRAIL during a MATCH are returned to the COURTYARD at the corner of the GUARDRAIL and CASTLE by FIELD STEWARDS. **See Section 3.2**
3. **T** A BOULDER is scored in a GOAL if it passes through the opening of a GOAL and exits into the CORRAL. **See Section 3.1.4**
4. **T** A ROBOT has CHALLENGED the TOWER if, at the conclusion of the MATCH, the ROBOT is fully supported by the TOWER, but hasn't met the criteria for SCALING the TOWER. **See Section 3.1.4**
5. **F** ROBOTS and anything they control, e.g. a BOULDER, may not contact anything outside the FIELD with the exception of brief incursions into the EMBRASURE. **See G3**
6. **T** DRIVE TEAMS may only enter or exit the FIELD through open gates. **See G6**
7. **F** Strategies aimed solely at forcing the opposing ALLIANCE to violate a rule are allowed. **See Section G11**
8. **F** Any devices worn by the DRIVERS and/or HUMAN PLAYERS must be disconnected from the OPERATOR CONSOLE. **See G16**
9. **F** A ROBOT may not transfer BOULDERS from the NEUTRAL ZONE to the opponent's COURTYARD. **See G27**
10. **F** An ALLIANCE may not POSSESS their opponent's BOULDERS. **Similar rule in 2014 does not exit in 2016**
11. **F** ROBOTS must have passed Inspection to play in a scheduled Practice MATCH. **See Section 5.2.2**
12. **T** There are no TIMEOUTS in the Qualification MATCHES. **See Section 5.5.6**
13. **F** An ALLIANCE may request a TIMEOUT after a Playoff MATCH is stopped due to an ARENA FAULT. **See T25**
14. **T** If an ALLIANCE does not communicate its DEFENSE selection to the DC within the required time period, the DEFENSES are randomly selected by the FMS. **See T31**
15. **F** There are no TIMEOUTS in the Playoff MATCHES at the FIRST Championship. **See Section 5.6**

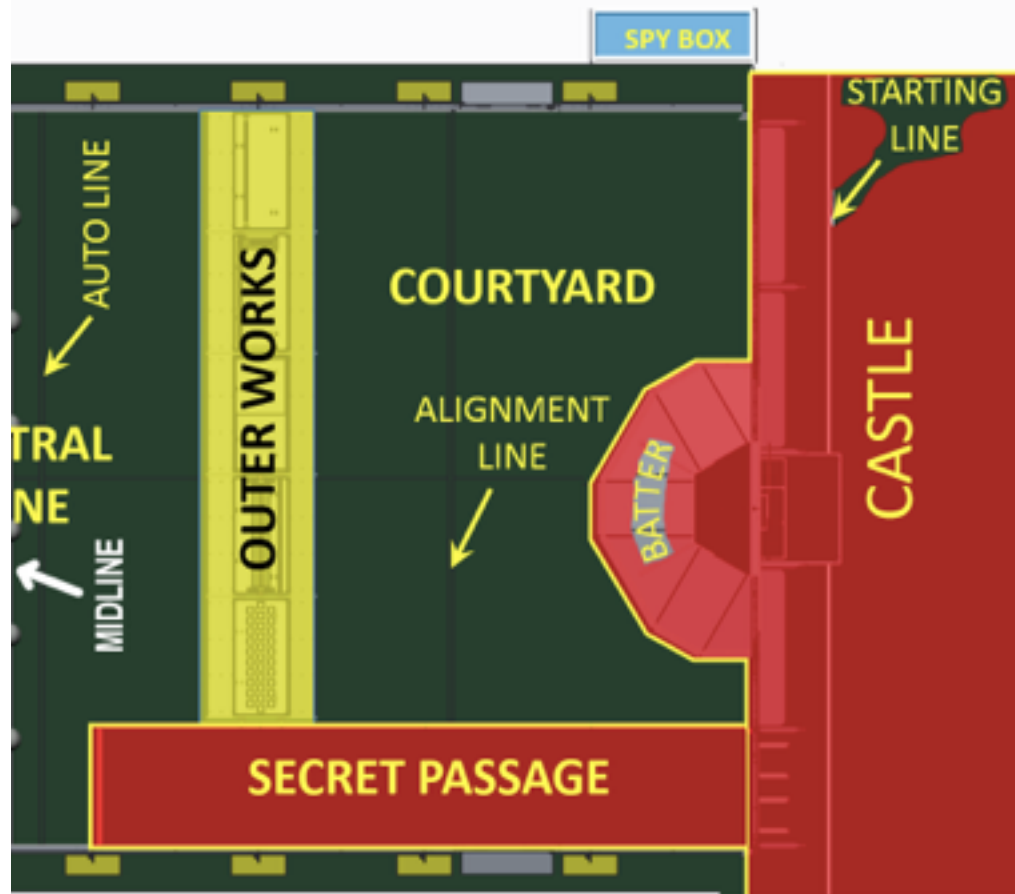
Fill in the blanks with the appropriate missing word(s). (1pt each unless otherwise stated)

1. The **BRATTICE** is the hole in the HUMAN PLAYER STATION plastic and its protective aluminum cage. **See Section 2.2.3.1**
2. Each TOWER has **two (2)** low GOALS and **three (3)** high GOALS. **1/2pt each blank, See Section 2.2.3.1**
3. The LED light string in the PLAYER STATIONS is yellow a MATCH is in **AUTO**. **See Section 2.2.3.1**
4. Before each MATCH begins, **three (3)** BOULDER(S) are staged in each CASTLE. **See Section 2.3**
5. When a DEFENSE'S STRENGTH reaches zero (0), the DEFENSE is **DAMAGED**. **See Section 3.1.3**
6. A DEFENSE is **CROSSED** by a ROBOT when that ROBOT starts free of contact with the DEFENSE and completely in the **NEUTRAL ZONE**. **See Section 3.1.3**
7. A TOWER is **WEAKENED** if the TOWER'S STRENGTH is at or below zero (0). **See Section 3.1.4**
8. During **AUTO**, DRIVE TEAM members in the CASTLE may not contact anything in front of the **STARTING LINE**, unless for personal or equipment safety. **See G15**
9. ROBOTS may only enter or exit their opponent's SECRET PASSAGE from/to the opponent's **COURTYARD**. **See G20**
10. ROBOTS may not pin an opponent's ROBOT for more than **five (5)** second(s). A ROBOT will be considered pinned until the ROBOTS have separated by at least **six (6)** feet. The pinning ROBOT(s) must then wait for at least **three (3)** second(s) before attempting to pin the same ROBOT again. **(3 pts) See G22**
11. During the final **twenty (20)** seconds of TELEOP, ROBOTS in their COURTYARD may not contact an opponent ROBOT, regardless of who initiates the contact. **See G28**
12. ROBOTS may not control more than **one (1)** BOULDER(S) at any time. **See G38**
13. A SURROGATE receives **zero (0)** MATCH Point(s) at the completion of a Qualification MATCH. **See Section 5.3.2**
14. The **Head REFEREE** has the ultimate authority in the ARENA during the event, but may receive input from additional sources, e.g. Game Designers, FIRST personnel, FTA, and technical staff. **See Section 5.5.3**
15. If an ALLIANCE wishes to call a TIMEOUT, they must submit their TIMEOUT coupon to the Head REFEREE within **two (2)** minutes of the ARENA reset signal preceding their MATCH. **See T21**

16. If there is a disagreement amongst the Teams on an ALLIANCE regarding the specific DEFENSES or their locations on the FIELD, the ALLIANCE CAPTAIN or Team assigned to PLAYER STATION #2 has the final decision authority. See T28

Draw and label the border of the listed zones and label the listed markings in the diagram of the field below. (1 pt each)

- | <u>Zones</u> | <u>Markings</u> |
|----------------|-----------------|
| COURTYARD | MIDLINE |
| NEUTRAL ZONE | AUTO LINE |
| OUTER WORKS | STARTING LINE |
| SECRET PASSAGE | ALIGNMENT LINE |
| SPY BOX | |
| CASTLE | |



See Section 2.1

List the DEFENSES in each category (5 pts) -1/2pt per missing DEFENSE

Category A	Category B	Category C	Category D	non-selectable
Portcullis Cheval de Frise	Moat Ramparts	Drawbridge Sally Port	Rock Wall Rough Terrain	Low Bar

See Section 2.2.2.1

Which of the following electronic components are in the PLAYER STATIONS? For each of the correct answer(s), write "X" in the blank. (3pts) -1/2pt per incorrect item

Y Ethernet Cable

N Classmate Power Adapter

Y Emergency Stop (E-Stop) button

N Flat panel display to show scoring

Y Team LED to indicate robot status

Y Power Outlet

Y LED light string

See Section 2.2.3.1

How long is AUTO? (1pt)

fifteen (15) seconds See Section 3.1.2

How long is TELEOP? (1pt)

two (2) minutes and fifteen (15) seconds See Section 3.1.2

Fill in the table below with the point values for the tasks in FIRST STRONGHOLD. (16 pts) -1/2pt per incorrect item

Action	AUTO	TELEOP	Qual	Playoff
REACHING a DEFENSE	2	-	-	-
CROSSING an UNDAMAGED DEFENSE	10	5	-	-
BOULDER in Low TOWER GOAL	5	2	-	-
BOULDER in High TOWER GOAL	10	5	-	-
CHALLENGE (per ROBOT)	-	5	-	-
SCALE (per ROBOT)	-	15	-	-
BREACH	-	-	1 RP	20
CAPTURE	-	-	1 RP	25

See Section 3.3.1

Which people are allowed to touch BOULDERS? For each of the correct answer(s), write "X" in the blank. (2pts) -1/2pt per incorrect item

N COACHES

Y HUMAN PLAYERS

Y DRIVERS

Y FIELD STEWARDS

See G36

During Playoff MATCHES do RED CARDS apply to as single Team or the entire ALLIANCE? (1pt)

entire ALLIANCE **See Section 5.5.4**

Which of the following may lead to a MATCH replay? For each of the correct answer(s), write "X" in the blank. (2pts) if 2 or more correct 1/2pt, if 4 or more correct 1pt, if 7 or more correct 1 1/2pts, if 9 (all) correct 2 pts

N A tie

N Ripped or torn BOULDERS

Y Broken FIELD elements

Y Power failure to a portion of the FIELD

N tripping the circuit breaker in the PLAYER STATION

Y Improper activation by the FMS

Y Errors by FIELD staff

Y a Team STANDARD falling into the FIELD

N A piece of FIELD plastic falls into the FIELD, but does not, in the judgment of the Head REFEREE, affect the outcome of the MATCH

See Section 5.5.5

Pick two of the following four questions. Answer them on a separate sheet of paper. Be thorough in your responses and give as many details as you can remember. (6pts each)

1. When a robot is placed on the FIELD for a MATCH, where can it be placed? How should it be configured? **2pts for each point mentioned, up to 6pts**

-not in contact with a BOULDER staged on the MIDLINE

-the only item left on the FIELD by the DRIVE TEAM

-confined to its STARTING CONFIGURATION

-fully contained by the opposite half of the FIELD from their TOWER

-breaking the plane of the AUTO LINE

-or inside the COURTYARD

-in contact with both the CASTLE WALL and GUARDRAIL

-Only one (1) ROBOT per ALLIANCE

-known as the "spy bot,"

See G7

2. All Teams participating in the Tournament are seeded during the Qualification MATCHES. Describe how the seeding order is determined. **1pt for each criteria correctly placed**

Order Sort	Criteria
1 st	Ranking Score
2 nd	Cumulative sum of AUTO points
3 rd	Cumulative sum of scored SCALE and CHALLENGE points
4 th	Cumulative sum of High and Low GOAL points from AUTO and TELEOP
5 th	Cumulative sum of CROSSED UNDAMAGED DEFENSE points (AUTO and TELEOP)
6 th	Random sorting by the FMS

See Section 5.3.4

3. What should a DRIVE TEAM do if they need clarification on a ruling or score? **2pts for each point mentioned, up to 6pts**

- one (1) pre-college student
- address the Head REFEREE
- after the ARENA Reset Signal
- standing in the corresponding Red or Blue Question Box
- Question Boxes are located on the floor near each end of the scoring table
- Head REFEREE may postpone any requested discussion until the end of the subsequent MATCH

4. Describe how DEFENSES are selected for QUALIFICATION MATCHES. **2pts for each point mentioned, up to 6pts**

- Prior to each round of Qualification and Playoff MATCHES, the audience selects one of the DEFENSES used by both ALLIANCES
- The Audience selected DEFENSE is located in the OUTER WORKS position 3
- DEFENSE which receives the loudest response, as judged by the Head REFEREE
- FMS determines the order in which the DEFENSE groups are selected by the audience
- first group is determined randomly, the groups rotate alphabetically for each subsequent selection
- Once in the Queue and no later than the end of the MATCH two (2) MATCHES prior to their scheduled MATCH (i.e. "Queue #2"): Each ALLIANCE selects the DEFENSES
- Each ALLIANCE selects the DEFENSES and DEFENSE locations on the FIELD and communicates the selections to the Defense Coordinator (DC).
- Queued and no later than the start of the MATCH one (1) MATCH prior to their scheduled MATCH (i.e. "Queue #1"): ASAP & concurrently, the DC makes available to each ALLIANCE a map revealing the DEFENSES and locations