



# CHALLENGE 1

## TARGET PRACTICE ... LOOK OUT BELOW

### DETAILS

YOUR TEAM NEEDS TO CREATE A LEGO CATAPULT TO SHOOT INDY BALLS UP INTO THE AIR AND GET THEM TO LAND ON THE BULLS EYE 3 FEET AWAY. THE ONLY RULES ARE THAT YOUR CATAPULT WILL NEED TO BE PLACED IN THE TAPED OFF BOX AND NEEDS TO USE ONLY WHAT IS IN YOUR KIT TO WORK.

YOU GET 3 SHOTS DURING THE JUDGING. ONLY THE BEST BONUS WILL BE ADDED TO YOUR SCORE. YOU ALSO GET POINTS FOR IT BEING ACCURATE (HITTING THE CENTER) AND IT BEING PRECISE (HITTING A SIMILAR LOCATION EACH TIME).

### THINGS TO KEEP IN MIND

YOUR BOT MUST BE PLACED IN THE TAPED OFF BOX

YOU GET POINTS FOR AIM (HOW YOU AIM THE BOT), PRECISION (SAME PLACE EACH TIME), AND ACCURACY (HITTING THE TARGET IN THE MIDDLE)

IT IS THE FINAL RESTING PLACE OF THE BALL THAT MATTERS!

### SCORING

[DEMONSTRATION SCORE DOUBLED IF PRIMARY CHALLENGE]

(100) DESIGN AND PROGRAM ALGORITHM

(25) STABILITY

(25) ORIGINALITY

(25) IMPLEMENTED SENSORS AND ADAPTED TO SITUATION

(25) COMPLETED IN TIME FOR SCHEDULED JUDGING

(100) DEMONSTRATION

(35) HITS TARGET AT ALL

(65) PRECISION, AIM, AND ACCURACY

### BONUS

THE BALL COMING TO REST IN THE RINGS OF THE BULL'S-EYE GIVES A BONUS

CENTER - 50PTS

2<sup>ND</sup> RING - 30PTS

3<sup>RD</sup> RING - 15PTS

OR 5PTS FOR HITTING A JUDGE

PLUS AN ADDITIONAL 25 POINTS IF THE BALL LANDS IN THE SAME PLACE EACH OF THE 3 TRIES.