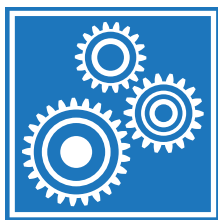




Robot Game Missions



Opening Doors

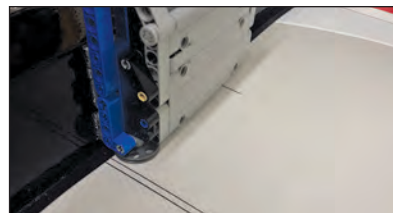
Required condition visible at the end of the match:

- The door must be open enough for the referee to notice.

Required methods, constraints:

- The handle was pushed down.

Value: 15



Cloud Access

Required condition visible at the end of the match:

- The SD card is up.

Required methods, constraints:

- The correct “key” was inserted in the cloud.

Value: 30



Community Learning

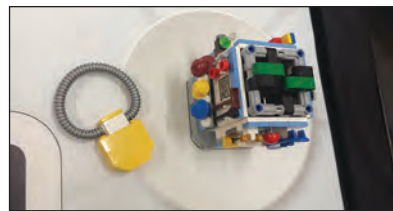
Required condition visible at the end of the match:

- The knowledge & skill (loop) is no longer touching the community model.

Required methods, constraints:

- None.

Value: 25



Robotics Competition

Required condition visible at the end of the match:

- The robotics insert is installed in the place shown.
- The loop is no longer touching the robotic arm model.

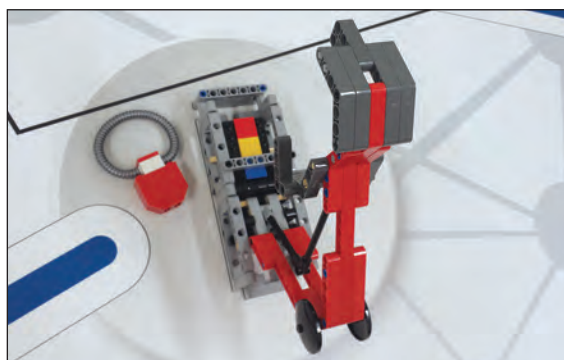
Required methods, constraints:

- No team supplied object is touching the robotics insert.
- The loop was released due to movement of the slider only.

Value/Insert: 25

Value/Insert + Loop: 55

(Possible Scores = 25 or 55)



Using the Right Senses

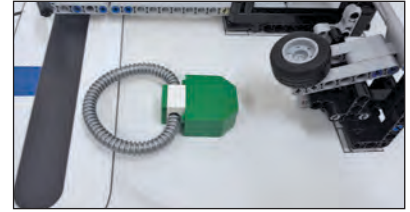
Required condition visible at the end of the match:

- The loop is no longer touching the senses model.

Required methods, constraints:

- The loop was released due to movement of the slider only.

Value: 40



Thinking Outside the Box

Required condition visible at the end of the match:

- The idea model is no longer touching the box model.
- If the idea is no longer touching the model, the bulb faces up.

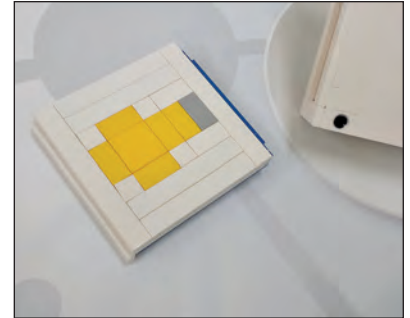
Required methods, constraints:

- The box model was never in Base.

Value/Idea Out, Bulb Down: 25

Value/Idea Out, Bulb Up: 40

(Possible Scores = 25 or 40)



Remote Communications/Learning

Required condition visible at the end of the match:

- None.

Required methods, constraints:

- The referee has seen the robot pull the slider west.

Value: 40



Search Engine

Required condition visible at the end of the match:

- The color wheel has spun at least once.
- If a single color appears in the white frame, its matching loop is no longer touching the model.
- If two colors appear in the white frame, the remaining color's loop is no longer touching the model.
- Both "not desired" loops must be touching the model, in their holes.

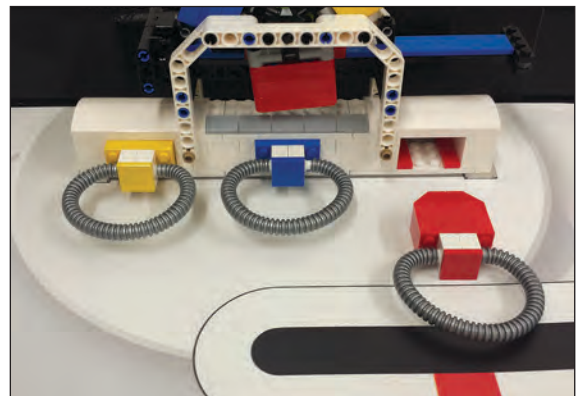
Required methods, constraints:

- Nothing has caused the color wheel to spin except the slider being pushed.

Value/Slider: 15

Value/Slider + Loop: 60

(Possible Scores = 15 or 60)



Sports

Required condition visible at the end of the match:

- The ball is touching the mat in the net.

Required methods, constraints:

- All equipment involved with the shot was completely east/north of the “Shot Lines” while sending the ball to the net.

Value/“Took A Shot”: 30

Value/Shot + Goal: 60

(Possible Scores = 30 or 60)



GOAL



SHOT LINES

Reverse Engineering

Required condition visible at the end of the match:

- Your basket is in Base.
- You have built a model “identical” to the one the other team put in your basket. Connections need to be the same, but where rotation is a factor, “close” is okay.
- The model is in base.

Required methods, constraints:

- None.

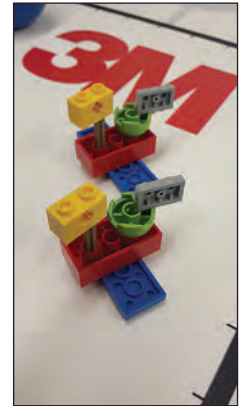
Value/Basket: 30

Value/Basket + Model: 45

(Possible Scores = 30 or 45)



EXAMPLE



EXAMPLE

Adapting to Changing Conditions

Required condition visible at the end of the match:

- The model is rotated 90° counter-clockwise from its setup position as shown here.

Required methods, constraints:

- None.

Value: 15



Apprenticeship

Required condition visible at the end of the match:

- The people are both bound (any way you like) to a model you design/supply, which represents a skill, achievement, career, or hobby that has meaning for your team.
- The model is touching the white circle around the scale.
- The model is not in Base.
- Binding mission models is usually not allowed under [Rule 39](#), but we make an exception here.
- The model can be simple or complex, primitive or realistic – it’s up to you.

Required methods, constraints:

- None.

Value/Model: 20

Value/Model Touching Circle: 35

(Possible Scores = 20 or 35)



Engagement

Required condition visible at the end of the match:

- Yellow section is moved south.
- Dial is obviously clockwise of its setup position; see chart for score.

Required methods, constraints

- The dial may only move as a result of the robot turning the pinwheel.
- Between any two starts/restarts (see [Rules 39](#) & [40](#)), the pinwheel may be turned 180° maximum.

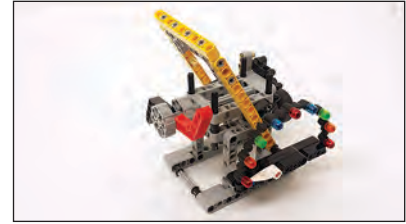
The referee will undo any extras turns.

Value/Engage: 20

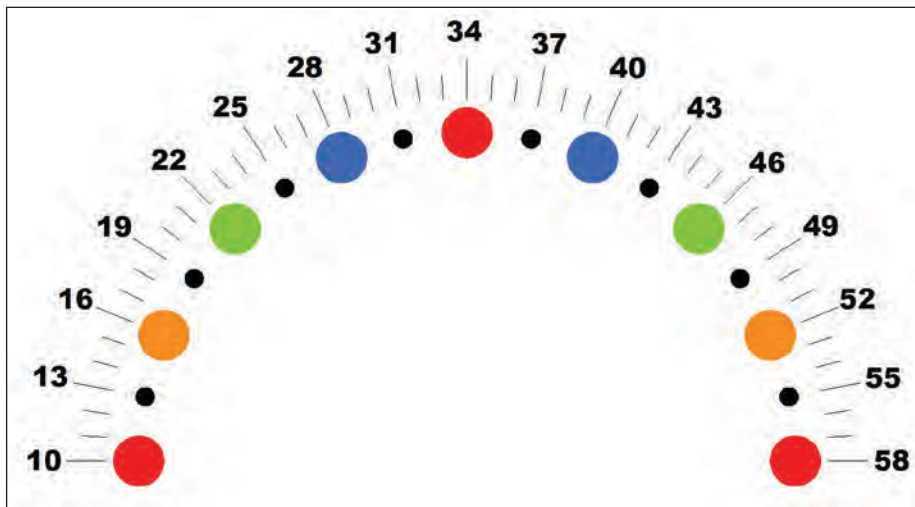
Value/90° Pinwheel Turns: See Chart For Percentage Added To Your Non-Engagement Mission Score Total

EXAMPLE: If your score from all other missions is 350, and the robot does one 90° turn, that's worth 35.

EXAMPLE: If your score from all other missions is 300, and the robot does six 90° turns, that's worth 45.



ENGAGED



PERCENTAGE ADDED TO NON-ENGAGEMENT TOTAL



EXAMPLE: 22%



EXAMPLE: 25%

Project-Based Learning

Required condition visible at the end of the match:

- The scale holds loops (representing knowledge and skill) as shown.

Required methods, constraints:

- None.

Value/1st Loop: 20

Value/More Loops: 10 EACH

(Possible Scores = 0 or 20 or 30 or 40 or 50 or 60 or 70 or 80 or 90)



Penalties

If a Robot, Sprawl, or Junk penalty earned (as described in the Rules), the referee keeps account by obvious placement of these penalty markers in some manner as to stay out of the way of you and your robot. Loss of cargo is its own penalty.

Robot, Sprawl, or Junk Penalty: -10 EACH

(Max Penalties Of These Types = -80)

Cargo Penalty: Loss Of Cargo

