

# ROBOTICS QUARTERLY 2

Please complete the problems below:

Which of the following is not a definition of Design?

- A To duplicate an existing idea
- B To plan out in a systematic, usually graphic form
- C To conceive of fashion in the mind
- D To formulate a plan for; devise

✓

Engineering at its fundamental level is:

- A Art
- B Math
- C Problem solving
- D Science

✓

What type of engineer is responsible for designing and integrating the sensors and software of a product?

- A Aeronautical Engineer
- B Electrical Engineer
- C Plastics Engineer
- D Mechanical Engineer

✓

Which of the follow actions would not fit in a successful design team?

- A Be defensive of ideas.
- B Keep an open mind.
- C Do not become overly attached to a single idea.
- D Do not get offended if a conflict arises.

✓

Quantitative Arguments are

- A Ones that cannot measured
- B Ones that have a variable quantity
- C Ones that can be measured
- D Ones that have an unknown quantity

✓

Manipulators are used to:

- A Provide feedback to the robot.
- B Move the robot from location to location.
- C Interact with the environment around the robot.
- D Manipulate the feedback from robot.

✓

Which of the following is not a form of robotic drivetrain?

- A | Legs
- B | Wheels
- C | Manipulators
- D | Tank Treads

✓

The CPU of a robot processes information from sensors and makes decisions based on logic.

- A | False
- B | True

✓

Industrial robots are mainly used for research.

- A | False
- B | True

✓

What does STEM stand for?

- A | Science Technology Engineering Math
- B | Seeing Touching Evaluating Manipulating
- C | Social Training Economical Modeling
- D | Selective Teaching Environmental Mechanics

✓

What is the length between square holes on the VEX structural metal?

A 0.375 inches

B 0.5 inches

C 0.25 inches

D 0.75 inches



What is the name of this VEX part?

Spacer

Bearing Flat

Block

Guide Block



Which type of nut in the VEX Design System has a plastic insert to prevent the screw from loosening?

A Nylock

B KEPS

C CAP

D Wing



The VEXnet system uses which frequency band to communicate wirelessly?

A 900 MHz

B 5.4 GHz

C 61 Hertz

D 2.4 GHz



The VEX Cortex microcontroller has how many motor ports?

A 8

B 6

C 12

D 10



The VEX Cortex microcontroller has how many digital I/O?

A 8

B 12

C 6

D 10



The VEX Cortex microcontroller has how many analog inputs?

A 6

B 10

C 12

D 8



How many trigger buttons are on the VEXnet joystick?

A 2

B 8

C 6

D 4



What is the function of a breadboard

A to illuminate

B to build an electrical circuit

C to convert energy

D to ensure energy flows in only one direction



How many analog channels are on the VEXnet Joystick?

- A 6
- B 4
- C 8
- D 2

✓

What is the name of the type of diode that illuminates when electricity passes through it?

- A LED
- B LB
- C DEL

✓

Name the resistor values:



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The battery snap can be plugged into a breadboard

- A False
- B True

✓





Name this resistor value

END OF ASSESSMENT

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