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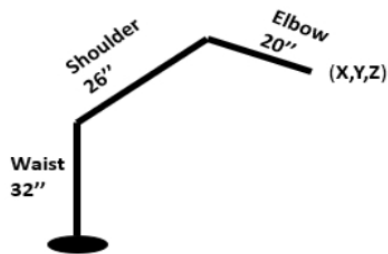‹ Previous   ☑ ✓   Next ›

Exam

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Robotic Arm with 3 Degrees of Freedom

15.0/15.0 points (graded)

Instruction: write your answer in the specific answer boxes. You will have to write two digits after the decimal point. Note that: you will be evaluated through the answers that you are providing only through these boxes

Robotic Arm Representation

Suppose
$A = 5$
$B = 5$
$C = 4$

Additionally, the height of shoulder from ground is 32 unit, length from shoulder to elbow is 26 unit and length from elbow to wrist is 20 unit.

If we rotate the waist by $A * 10$ degree, shoulder by $B * 10$ degree and elbow by $C * 10$ degree then answer the following questions.

What is value of X coordinate?

| 10.7426 |

✔

10.7426

What is value of Y coordinate?

| 12.8025 |

✔

12.8025

What is value of Z coordinate?

| 31.9172 |

✔

31.9172

QUESTION 2: If the coordinate value of the (X,Y,Z) is A,B,C then answer the following questions.

What is value of waist angle?

| 45.0000 |

✔

45.0000

What is value of elbow angle?

| 76.5444 |

✔

76.5444

What is value of shoulder angle?

| 118.1673 |

✔

118.1673

The total time for exam is 40 minutes. We suggest you spend 30 minutes for answering the above part and last 10 minutes for uploading the PDF. upload a pdf of your answer (handwritten) using this google form

Note that: uploading PDF is mandatory for All. However, This is just to keep the record of your answer scripts. your marks will be calculated from the answers that you entered in the above boxes. So. make sure you fill up those boxes correctly first.

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