



Free Questions for ICBB by dumpssheet

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Question 1

Question Type: MultipleChoice

For the data set shown here which of these statements is/are true?

Grade A	Grade B	Grade C
0.917	1.1	0.63
0.68	0.173	4.17
1.74	0.24	0.6
0.3	0.67	0.84
0.33	6.94	0.22
4.13		

Options:

- A- Hypothesis Testing of Means or Medians cannot be done since there are an unequal number of observations for the 3 samples
- B- A Paired T-test would be applicable for comparing Grade B and Grade A since they follow each other in the data set
- C- Grade A has the lowest sample Mean of the 3 samples
- D- Grade A has a higher sample Mean than Grade B

Answer:

C

Question 2

Question Type: MultipleChoice

A(n) _____ is best used to compare a Machine 1 average quality characteristic to the same quality characteristic of Machine 2.

Options:

A- 1-Sample t-test

B- 2-Sample t-test

C- F test

D- ANOVA test

Answer:

B

Question 3

Question Type: MultipleChoice

Which statement is most correct for the Regression Analysis shown here?

Regression Analysis: Turbine Output versus Air-Fuel Ratio, % steam, ...

The Regression Equation is
TurbineOutput = 16.5 + 3.21 Air-Fuel Ratio + 0.386 % methane
+ 0.0166 SteamExitTemp

Predictor	Coef	SE Coef	T	P
Constant	16.488	2.918	5.65	0.000
Air-Fuel Ratio	3.2148	0.2377	13.52	0.000
% methane	0.38637	0.07278	5.31	0.000
SteamExitTemp	0.016576	0.004273	3.88	0.004

S = 0.508616 R-Sq = 98.6% R-Sq (adj) = 98.2%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	170.003	56.668	219.06	0.000
Residual Error	9	2.328	0.259		
Total	12	172.331			

Source	DF	Seq SS
Air-Fuel Ratio	1	159.048
% methane	1	7.062
SteamExitTemp	1	3.892

Options:

- A-** The Regression explains 50.8% of the process variation
- B-** The air-fuel ratio explains most of the TurbineOutput variation
- C-** This Simple Linear Regression explains 98+% of the process variation

D- This Multiple Linear Regression has four statistically significant independent variables

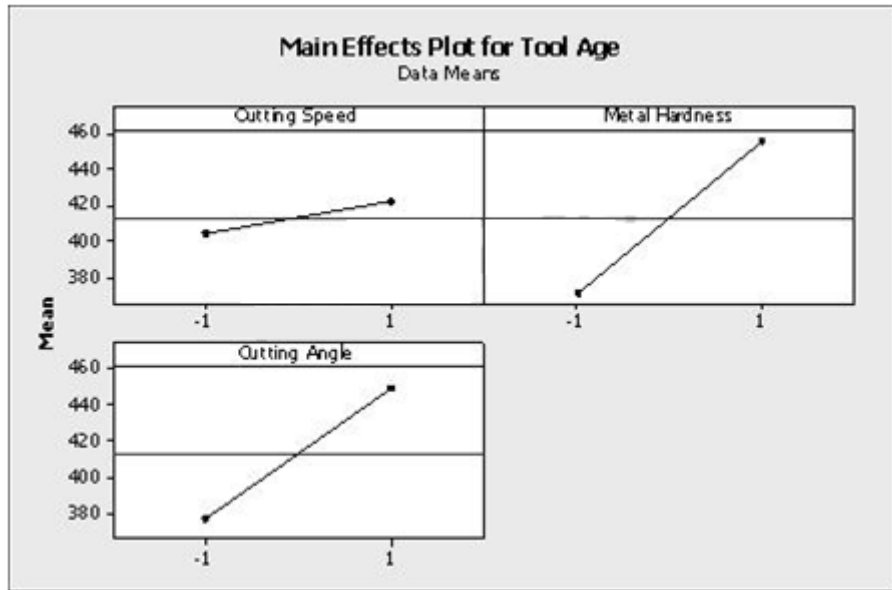
Answer:

B

Question 4

Question Type: MultipleChoice

Which statement(s) are correct about the DOE Factorial plot output here? (Note: There are 3 correct answers).



Options:

- A- Two factors were operated at 3 levels each
- B- The highest tool age was achieved with metal hardness at high level while keeping the cutting speed at the low level
- C- The design indicated above is a 32 factorial design
- D- The cutting speed and cutting angle are at the low level for the least tool age achieved
- E- All factors had 2 levels in the experiment

Answer:

B, C, E

Question 5

Question Type: MultipleChoice

Screening experiments are the proper choice when a Belt is faced with the situation of highly Fractional Factorial Designs.

Options:

A- True

B- False

Answer:

A

Question 6

Question Type: MultipleChoice

A Factorial Experiment based on a Level 2 Design with 4 factors would require 16 runs to fully assess the interactions.

Options:

A- True

B- False

Answer:

A

Question 7

Question Type: MultipleChoice

Fractional Factorial designs are used to reduce the time and cost of experiments because the _____ has been lowered.

Options:

- A- Number of data measurement points
- B- Number of runs
- C- People involved
- D- Output summary

Answer:

B

Question 8

Question Type: MultipleChoice

Fractional Factorial Designs are used to analyze factors to model the output as a function of inputs if Hypothesis Testing in the Analyze Phase was inadequate to sufficiently narrow the factors that significantly impact the output(s).

Options:

- A- True
- B- False

Answer:

A

Question 9

Question Type: MultipleChoice

Which statement(s) are incorrect for the Regression Analysis shown here? (Note: There are 2 correct answers).

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% methane	1	7.062
SteamExitTemp	1	3.892

Options:

- A- The air-fuel ratio explains most of the TurbineOutput variation
- B- The Regression explains over 98% of the process variation
- C- This Multiple Linear Regression has three statistically significant independent variables
- D- If the air-fuel ratio increases by 1, the TurbineOutput more than triples
- E- The SteamExitTemp explains the most variation of the TurbineOutput

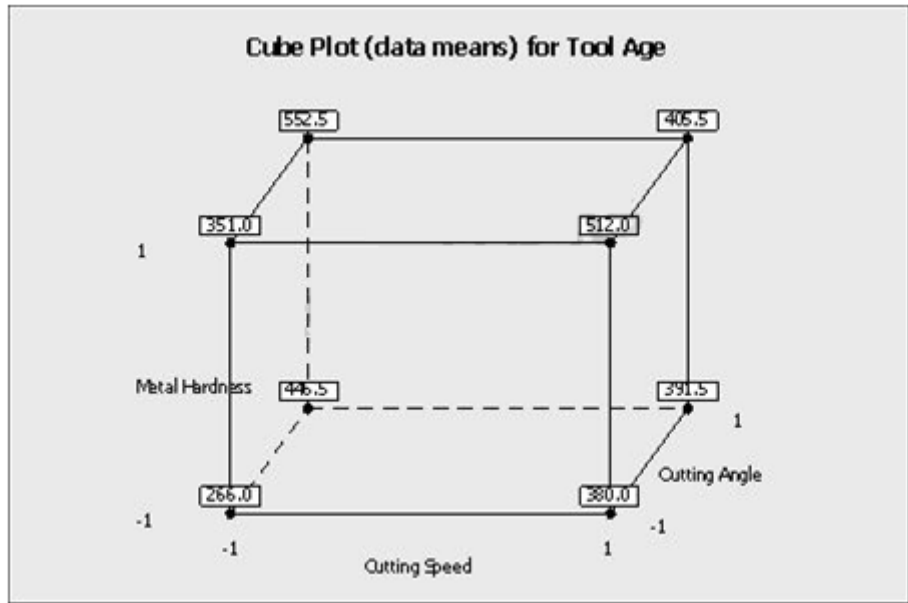
Answer:

D, E

Question 10

Question Type: MultipleChoice

Which statement(s) are correct about the Factorial Plot shown here? (Note: There are 3 correct answers).



Options:

- A- When the cutting speed increased from low to high level, the tool age increases
- B- The coefficient of the metal hardness is positively related to the output of tool age
- C- The coded coefficient is lower for cutting speed than the cutting angle related to the output of tool age
- D- These plots prove a statistically significance factor with 95% confidence
- E- These plots are an example of interaction plots

Answer:

A, B, C

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