

In-Class Assignment (Group of Five): One-Quarter Fractional Design (15 minutes) Submit to LEB2

Consider an  $2^{5-2}$  design with the following

results:  $e = 23.2$ ,  $ad = 16.9$ ,  $cd = 23.8$ ,  $bde = 16.8$ ,  $ab = 15.5$ ,  $bc = 16.2$ ,  $ace = 23.4$ ,  $abcde = 18.1$

- What are the design generators for this design?

$I = BDE = ACE = ABCD$ .

$D = BE$ ,  $E = AC$

$A = ABDE = CE = BCD$

$B = DE = ABCE = ACD$

$C = BCDE = AE = ABD$

$D = BE = ACDE = ABC$

$E = BD = AC = ABCD$

$B = ADE = BCE = CD$

$AD = ABE = CDE = BC$

- What is the design resolution?

Resolution III

- Estimate the main and 1st-order effects. Can you determine which effects are significant?

	A	B	C	D = BE	E = AC	
e	-	-	-	-	+	23.2
ad	+	-	-	+	-	16.9
bde	-	+	-	+	+	16.8
ab	+	+	-	-	-	15.5
cd	-	-	+	+	-	23.8
ace	+	-	+	-	+	23.4
bc	-	+	+	-	-	16.2
abcde	+	+	+	+	+	18.1

	Contrast	Estimate
A	-7.5	-1.525
B	-20.7	-5.175
C	9.1	2.275
D	-2.7	-0.675
E	9.1	2.275

จากการคำนวณได้ว่า effect C และ E significant