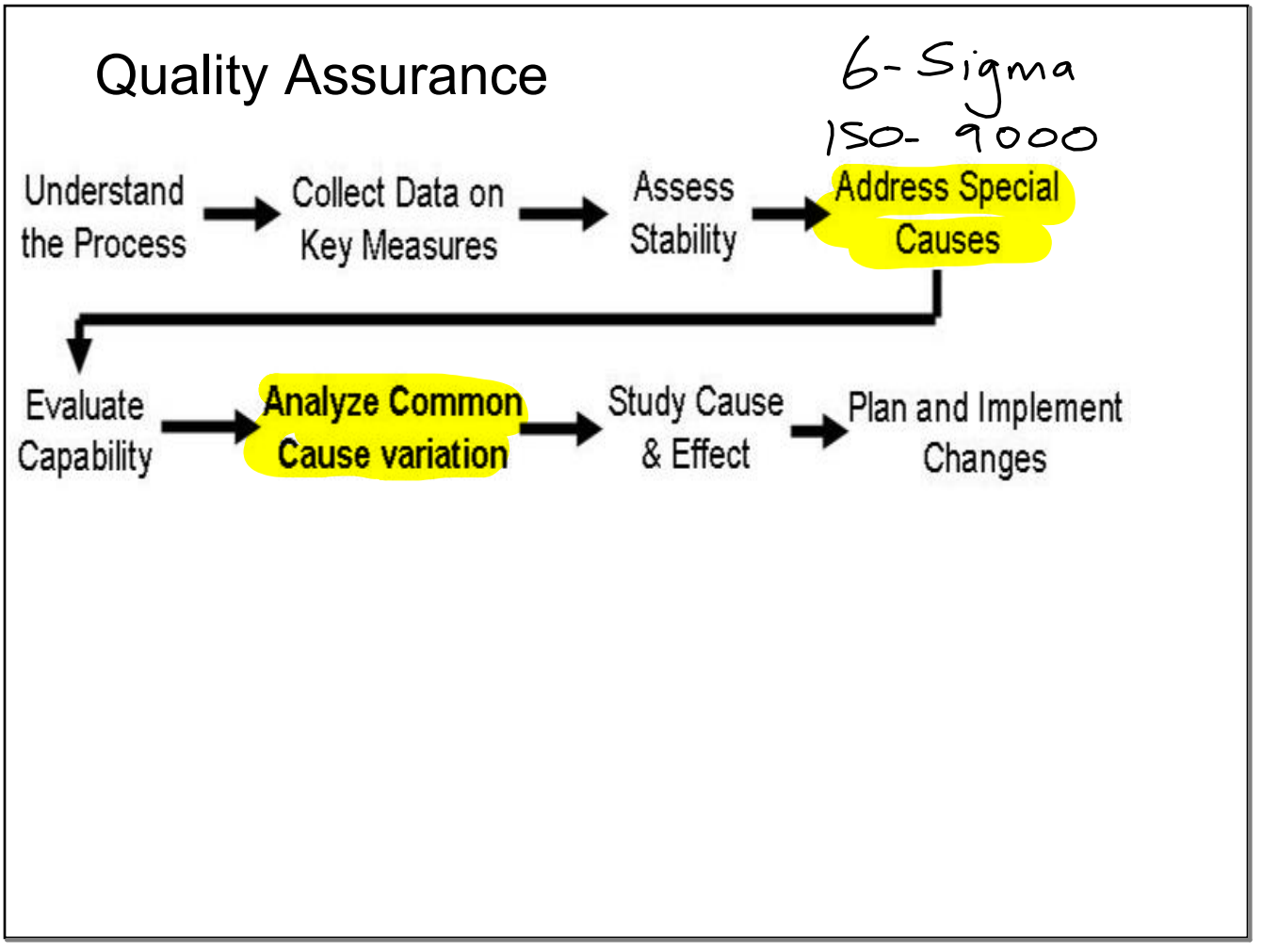
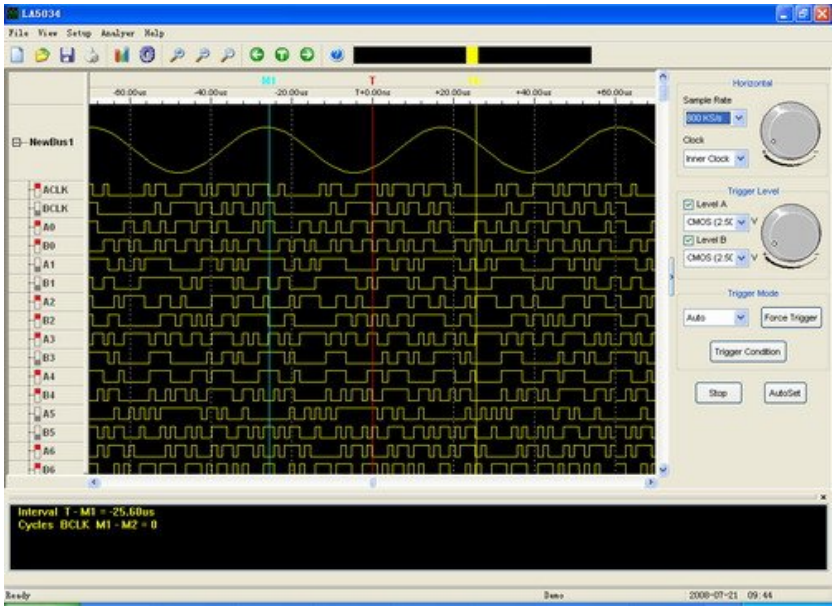

Quality Assurance
6-Sigma
ISO-9000
Understand the Process
Collect Data on Key Measures
Assess Stability
Address Special Causes
Evaluate Capability
Analyze Common Cause variation
Study Cause & Effect
Plan and Implement Changes

Variation due to the measurement process

Special Cause

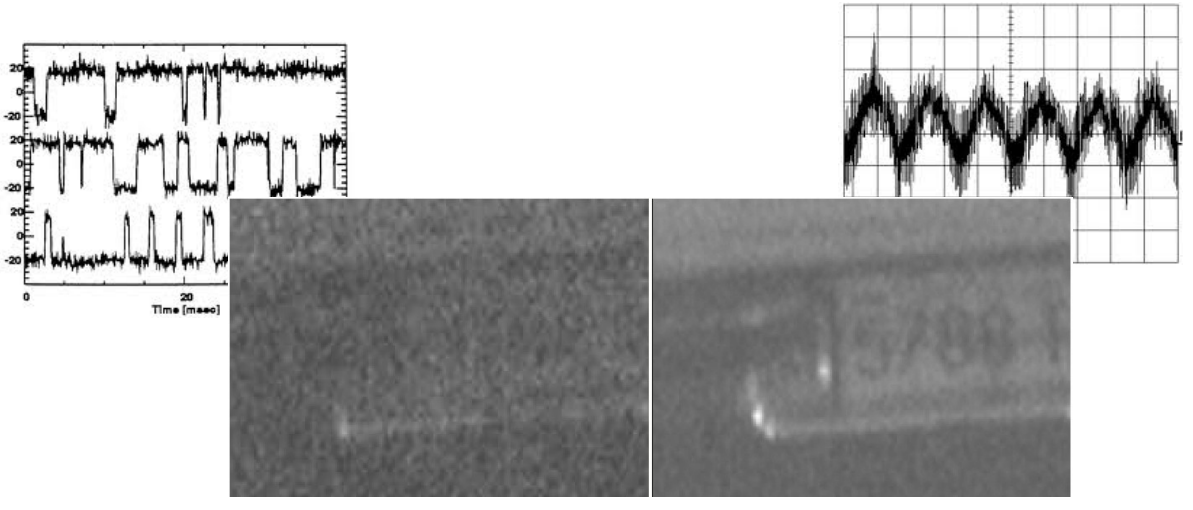
Special cause variation is not part of the system or process all the time or it does not affect everyone in the system.


BLUE PUTTEES


LA5034
File View Setup Analyzer Help
NewBus1
ACLK
BCLK
A0
D0
A1
B1
A2
B2
A3
B3
A4
B4
A5
B5
A6
D6
Horizontal
Sample Rate
Clock
Inner Clock
Trigger Level
Level A
Level B
Trigger Mode
Auto
Force Trigger
Trigger Condition
Stop
AutoSet
Interval T - M1 = -25.60us
Cycles BCLK M1 - M2 = 0
Ready
Demo
2008-07-21 09:44

Common Cause

Common cause variation is part of the system or process and it affects everyone in the system.



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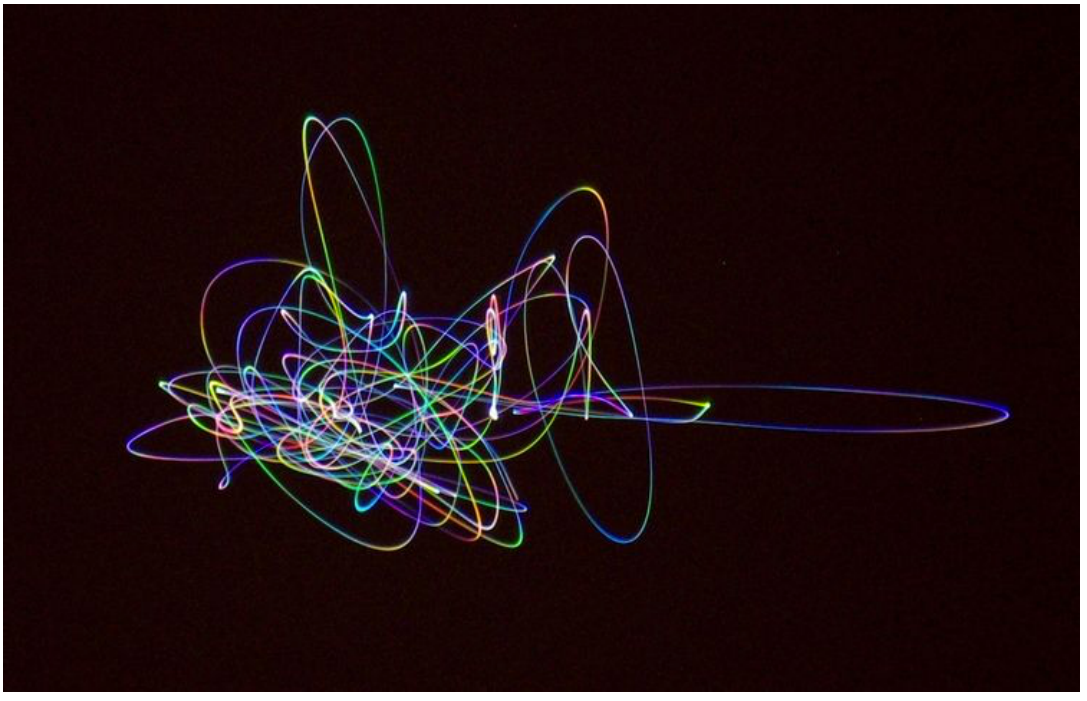
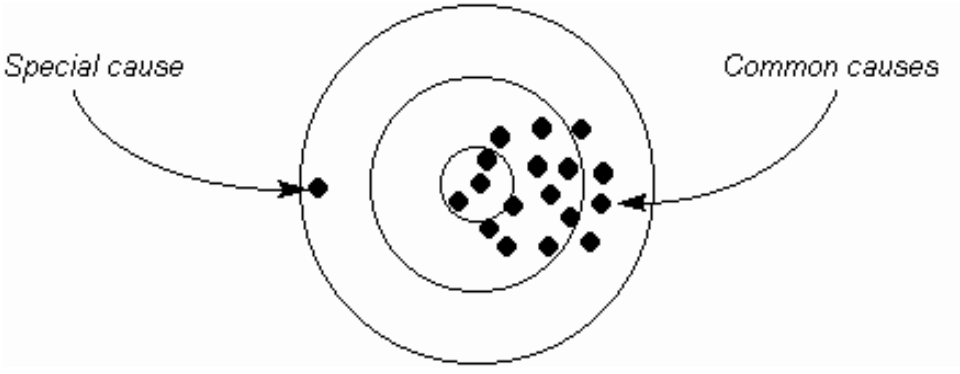
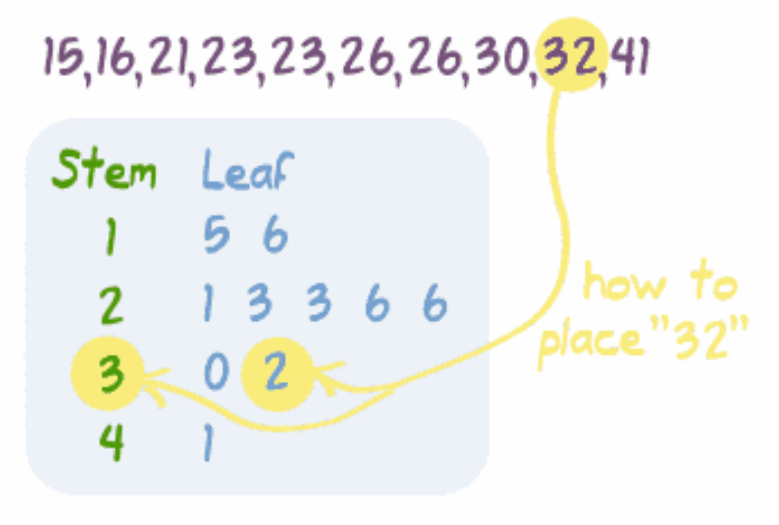



Special cause
Common causes


GOOD NEWS EVERONE
OUR LEADERS FINALLY RECOGNIZE THE DIFFERENCE BETWEEN COMMON CAUSE AND SPECIAL CAUSE VARIATION

Stem and Leaf Plot



Remember: one digit per leaf

Stem & Leaf Plot for comparing two distributions

smokers		non smokers
	10	0 8
1	11	1 5 8 9
3 0	12	3 6 6 8 8 9 9
4 2 0	13	0 1 7 7 8 8 9
6 5 3 1	14	0 1 5 6 9 1
9 7 6 5 0	15	2 4 2
2 9 7 6 4 1	16	0 1 8
9 8 7 4 3	17	4 6
6 5 3 0	18	1
7 5 1	19	
5 0	20	

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Remember: one digit per leaf

Part 1 - Data Collection

Work in pairs for data collection part.

Work individually for written part.

Materials:

Method 1
RED measuring 1/2 cup
Bag o' Pasta

Method 2
Clear measuring 1/2 cup
Bag o' Pasta

Each method

- Person 1 measures 1/2 cup of pasta and passes it to person 2.
- Person 2 counts the pasta and records the number without letting person 1 know the result.
- Repeat 5 times.
- Calculate mean (1 decimal place) and standard deviation (2 decimal places).
- Input your mean and s.d. into computer.

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Pasta Count Entry Form

Enter your mean and sample s.d. pasta counts here.

Be sure you enter your count's in the correct place. Red cup versus clear cup.

Part 2 - Analysis (the written part)

Work individually.

Use class data.

- Make a stem and leaf plot of the class means.

  Method 1 data to the left of center,

  Method 2 data to the right of center.

- Do the same for the class standard deviations.
- Compute Standard Error for each side of the means plot.

$$StdErr = \frac{2s}{\sqrt{n}}$$

mean of s.d.s

sample size $n = 5$ (five)

- Mark your plot with the boundaries: $\bar{\bar{x}} \pm \frac{2s}{\sqrt{n}}$

s is mean of s.d.s, $\bar{\bar{x}}$ is mean of means

Here comes the written part...

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