Exam 1 Review 735pm

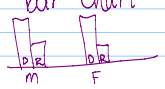
Note Title 9/22/2010

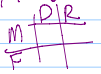
What to bring?
* Notes sheet
* Calculator - 4 function

C2: Var: Q, C
The W's: cases, variables, why

C3 Cat Variables

	Graph	Summarize
One Var	Bar Chart Discuss: Most frequent	Frequencies = Counts Relative Freq = %
Two Var	Side-by-Side bar chart	Contingency Table



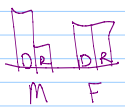


← use % within outermost category

Discuss: Indep / Dependence.

Indep: The distribution of one variable is the same across all values of the other
→ clusters of bars identical.

Ex



← Dep.

C4,5 Quantitative

	Graph	Summarize
1Q	Hist Boxplot	

Discuss: Shape
H - mode(s)
H/B - gaps/outliers
both - skew/sym/uniform

	Center	Spread
	mean	SD ↑ Sym
	med	IQR ↑ when outliers/skew

1Q, 1C Hist/Box (Side-by-side)

Now compare shapes — Compare centers, spread

Notes:
① IQR = $Q_3 - Q_1$
② know parts of boxplot.
③ Q_1 = value that separates the lower 25%
④ spread/variability discusses distance to center

C6 z-score

$z = \frac{y - \bar{y}}{s}$ = # of SDs away from the mean.

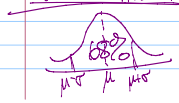
= standardized scores

* used for comparisons of single values

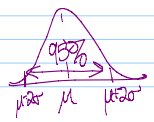
average z-score = 0 SD(z) = 1

Effect on:	Shape	Center	Spread
Shift = add/subt to each data	No	Shifts	No
Rescale = mult/div " "	No	Yes	Yes

Normal Model



$N(\mu, \sigma)$ (SD)
mean



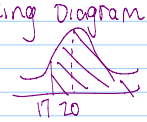
Ex: Data ~ Normal mean 20, SD 3

a) What % of data is above 17? ← Given x-val

b) Find Q_1. ← % is given, Find x

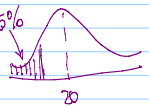
Making Diagram:

a)



① Label center
② Shade region in question

b)



Q&A 2Q

Graph	Summarize
Scatterplot	

Discuss:
Form: Lin, Non, No Pattern
↑ Pos/Neg
Strength: Weak, Strong
Unusual: outliers, subgroups, nonconstant var

If linear:
r = correlation coeff.
↓
Find regression
Interpret: slope, intercept, R^2
↓
Diagnostic: R^2 → strength > 50%

Diagnostic: Residual Plot
* Linearity
* No Pattern

Notes:

① Prediction
- from data / from scratch
- given line.

② Residual = observed − expected

Essays:

① Stick to what you know
② Be concise.
③ ALWAYS talk about minitab output.