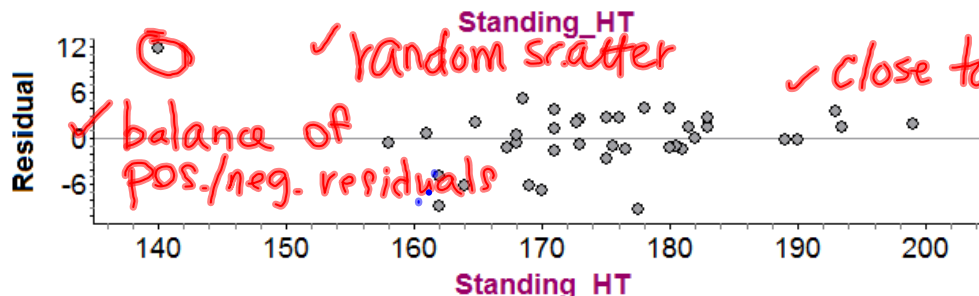
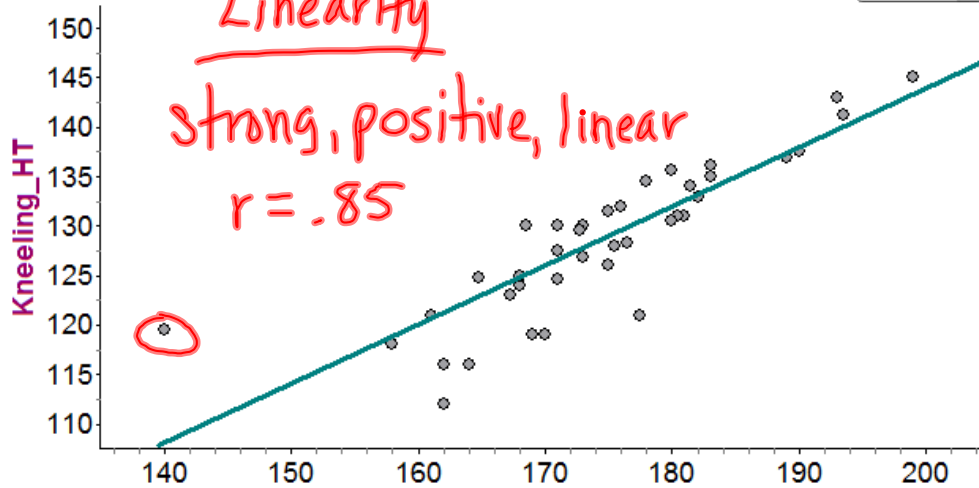


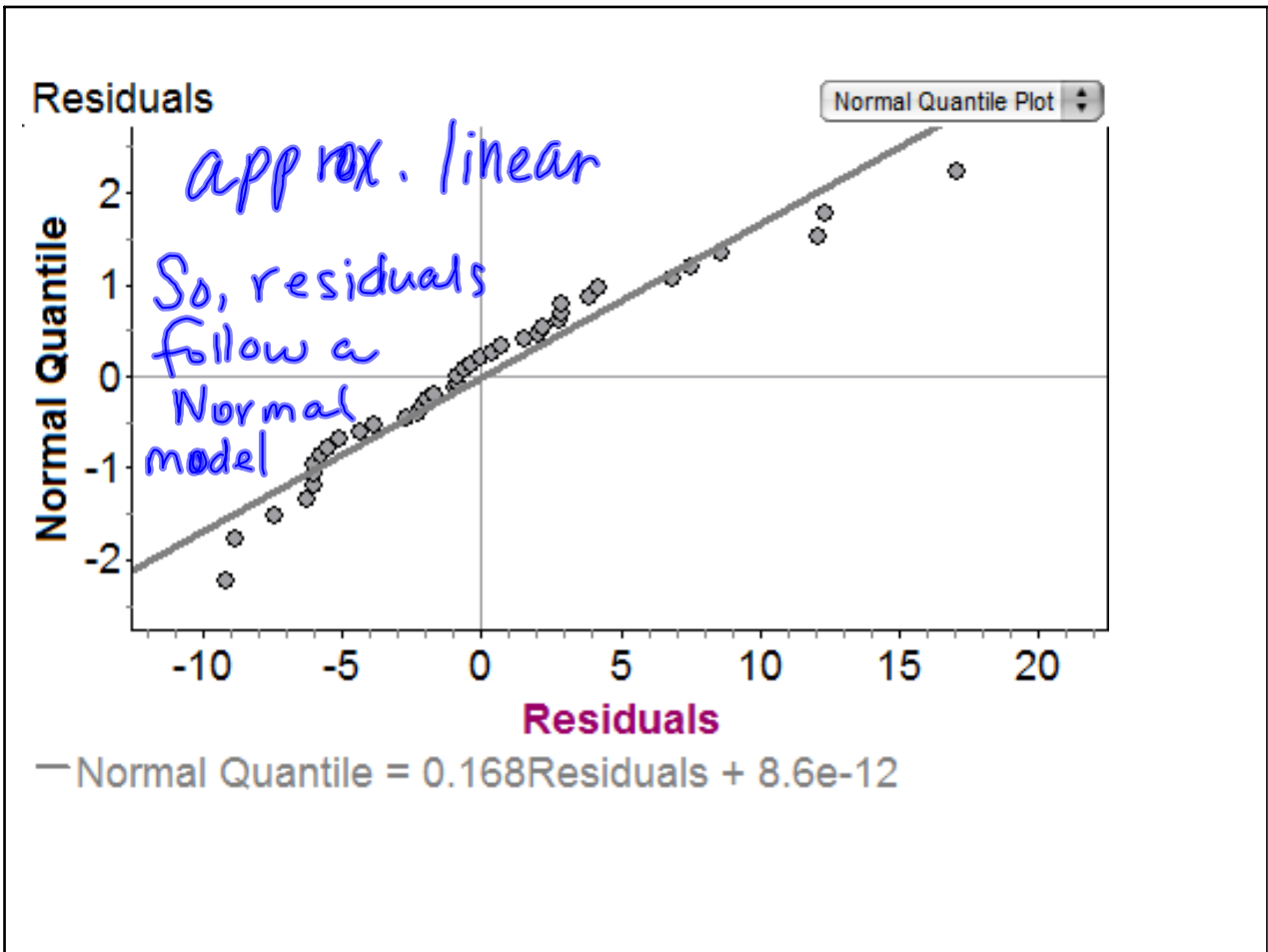
Checking Conditions for Regression Inference

- Randomization → Convenience sample
(Proceed w/caution)
- Independent observations
 - Each observation is independent of all others. (diff. people)
 - It is reasonable to assume that 400+ students were available for this study.
- Linearity of Relationship
- Normality of Residuals
- Equal variance of Residuals

Leonardo SP13



— Kneeling_HT = 0.599Standing_HT + 23.9; $r^2 = 0.73$



SUMMARY OUTPUT

Regression Statistics

Multiple R		0.895888045
R Square	r^2	0.802615389
Adjusted R Square		0.79728067
Standard Error		6.034687836
Observations	$n =$	39

ANOVA

	df	SS	MS	F	gnificance F
Regression	1	5479.05344	5479.053	150.4513	1.33E-14
Residual	$df = n - 2$	1347.445919	36.41746		s_e^2
Total	38	6826.499359			

$H_0: \beta = 0$
 $H_a: \beta \neq 0$
 $\alpha = .05$

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-13.86821016	15.55095376	-0.89179	0.378268	-45.3774	17.64102	-45.3774	17.64102
Standing	1.091339526	0.088973756	12.26586	1.33E-14	0.911062	1.271617	0.911062	1.271617

$\hat{y} = -13.87 + 1.09x$
 $\hookrightarrow SE_b$ $\hookrightarrow t = \frac{b}{SE_b}$

95%

Regression Statistics		(CI) $b \pm t^* SE_b$						
Multiple R	0.895888045							
R Square	0.802615389							
Adjusted R Square	0.79728067							
Standard Error	6.034687836							
Observations	39							
ANOVA		df	SS	MS	F	Significance F		
Regression		1	5479.05344	5479.053	150.4513	1.33E-14		
Residual		37	1347.445919	36.41746				
Total		38	6826.499359					
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-13.86821016	15.55095376	-0.89179	0.378268	-45.3774	17.64102	-45.3774	17.64102
Standing	1.091339526	0.088973756	12.26586	1.33E-14	0.911062	1.271617	0.911062	1.271617

$1.091 \pm (2.026)(.089)$
 $(.911, 1.27)$

