

2.4 - Scatterplots and Linear Regression

Foot	Height
x	y
9	68
8	64
9.5	69
8.5	66
10	73

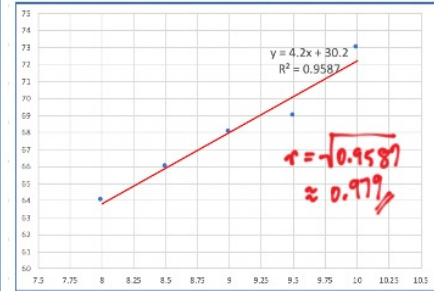
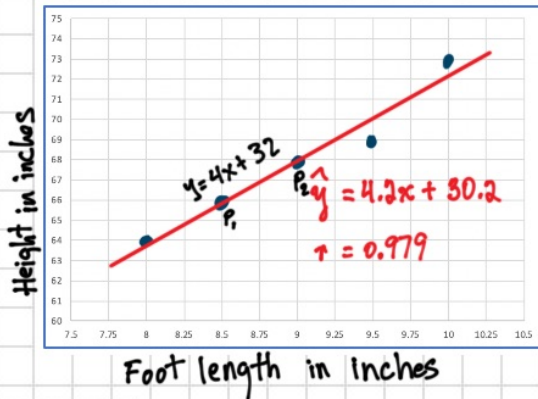


TABLE A-6 Critical Values of the Pearson Correlation Coefficient r

n	$\alpha = .05$	$\alpha = .01$
4	.950	.990
5	.878	.959
6	.811	.917
7	.754	.875
8	.707	.834

$r > 0.878$
 or $r < -0.878$
 THERE IS STRONG LINEAR CORRELATION!

$x_0 = 8.15$ find \hat{y}
 $\hat{y} = 4.2(8.15) + 30.2$
 $\hat{y} = 66.95$ in or about 67 in

16. Scatter Plot

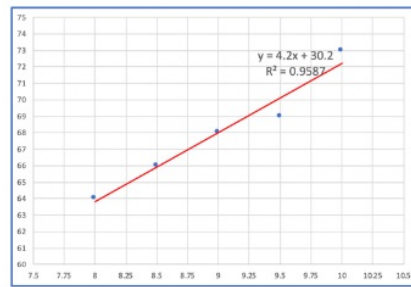
Scatter Plot

x	y
9	68
8	64
9.5	69
8.5	66
10	73

min: x=8, y=64
 max: x=10, y=73

Axes Values
 min: 7.5, 60
 max: 10.5, 75
 ticks: 0.25, 1

Rescale Axes
 Trendline (ON/OFF - Recalculate)



15. Correlation & Regression

Correlation and Regression

Var1	Var2
9	68
8	64
9.5	69
8.5	66
10	73

Correlation: $r = 0.9791$
 $r = 0.9791$

Regression: $y = a + bx$
 $a = 30.2000$
 $b = 4.2000$

degrees of freedom = ~~3~~

$\alpha = 0.05$
 critical $r_\alpha = \pm 0.8783$

t = ~~8.3446~~
 P-value = ~~0.0036~~

$\hat{y} = 4.2x + 30.2$