Q5 (Ex 34, Pg 407)
a)

STAT 3093 Assignment 5
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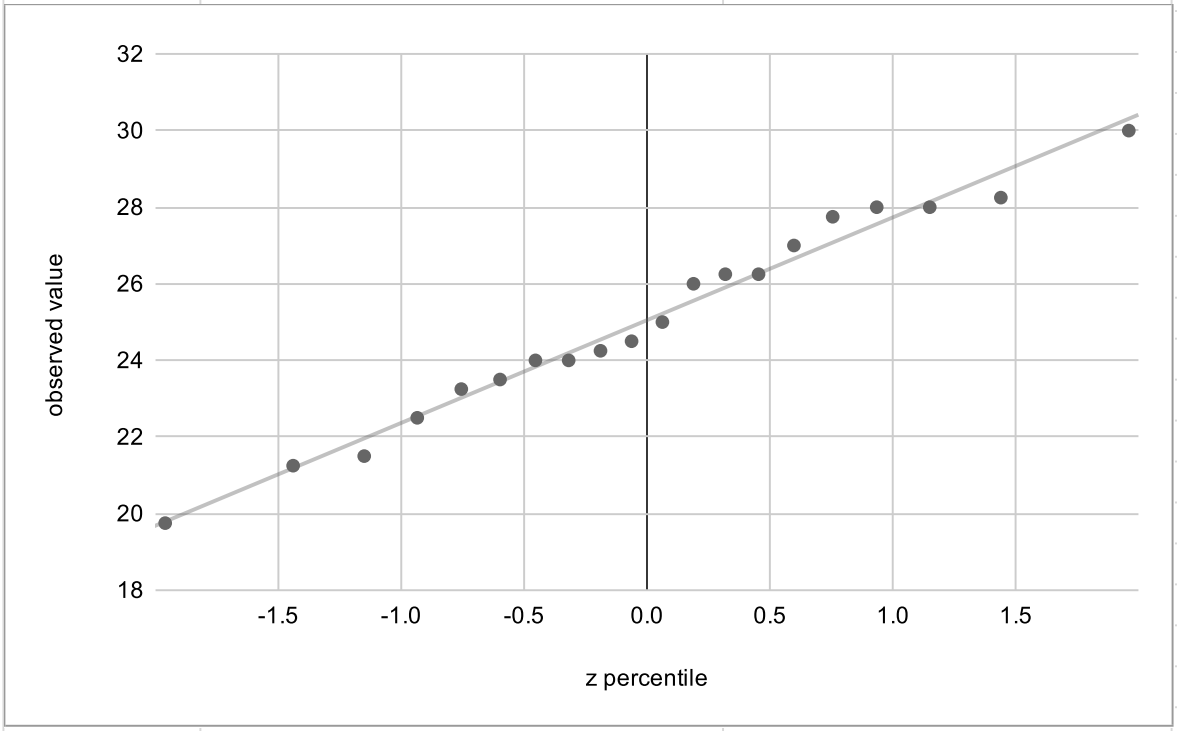
SAMPLE	*PCT* = `100*((ROW($A1)-1)-0.5)/20`	ZPCT `=NORMINV($B1/100,0,1)`
19.75	2.5	-1.959963986
21.25	7.5	-1.439531472
21.5	12.5	-1.150349381
22.5	17.5	-0.9345892912
23.25	22.5	-0.7554150257
23.5	27.5	-0.5977601266
24	32.5	-0.4537621904
24	37.5	-0.3186393636
24.25	42.5	-0.1891184262
24.5	47.5	-0.062706778
25	52.5	0.062706778
26	57.5	0.1891184262
26.25	62.5	0.3186393636
26.25	67.5	0.4537621904
27	72.5	0.5977601266
27.75	77.5	0.7554150257
28	82.5	0.9345892912
28	87.5	1.150349381
28.25	92.5	1.439531472
30	97.5	1.959963986



Q5 (EX 34, PG 407)

STAT 3093, ASS#4
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b) $\bar{X} = 25.05$ $\quad \alpha = 0.05$

$S = 2.690$ $\quad t_{.05/2, 20-1} = 1.729$

$n = 20$

$$CI = \bar{X} \pm t_{\alpha/2, n-1} \frac{s}{\sqrt{n}}$$

$$25.05 \pm 1.729 \left(\frac{2.690}{\sqrt{20}}\right) = \underline{(24.01, 26.09)}$$

c) The students are better than the average (21) based on these ACT scores.

90% CI:

$\alpha = 0.1$, $\quad t_{.1/2, 20-1} = 1.318$

$$25.05 \pm 1.318 \left(\frac{2.690}{\sqrt{20}}\right) = \underline{(24.26, 25.84)}$$