

Problem 1

1	p
2	CL
3	E
4	CV
5	
6	
7	
8	
9	
10	
11	

1) Given $p = 0.725$

p implies $q = 1 - 0.725 = 0.275$

$E = 0.02$

$CL = 0.95$

CL implies $\alpha = 0.05$ and half $\alpha = 0.025$

$CV = 1.96$ (famous)

$$n = \frac{(1.96)^2 (0.725)(0.275)}{(0.02)^2}$$

$= 1914.8$

WE ALWAYS ROUND THIS UP TO NEXT INTEGER!

$= 1915.$

Problem 2

	A	B
	=	
1	p	
2	CL	
3	E	
4	CV	not f
5		
6		
7		
8		
9		
10		
11		
	A1	p

p implies $q = 1 - 0.65 = 0.35$

E = 0.05

CL = 0.88

CL implies alpha = 0.12 and half alpha = 0.06

CV = 1.55477 (NOT famous)

=invnorm(0.06, 0, 1)

$$n = [(1.55477)^2 (0.65)(0.35)] / (0.05)^2$$

$$= 219.976$$

WE ALWAYS ROUND THIS UP TO NEXT INTEGER!

= 220.

$$n = \frac{(1.555)^2 \cdot 0.65 \cdot 0.35}{(0.05)^2} \rightarrow 220.04 = 221.$$

$$n = \frac{(1.55)^2 \cdot 0.65 \cdot 0.35}{(0.05)^2} \rightarrow 218.628 = 219.$$

	A	B
=		
1		
2	CL	
3	E	
4	CV	fa
5		
6		
7		
8		
9		
10		
11		

E = 0.036

CL = 0.9

CL implies alpha = 0.1 and half alpha = 0.05

CV = 1.645 (famous)

$$n = [(1.645)^2 (0.25)] / (0.036)^2$$
$$= 521.996$$

WE ALWAYS ROUND THIS UP TO NEXT INTEGER!

$$= 522.$$

Problem 4

	A	B
=		
1		
2	CL	
3	=	
4	CV	not f
5		
6		
7		
8		
9		
10		
11		

4) Given p = **UNKNOWN**

$$E = 0.04$$

$$CL = 0.78$$

CL implies alpha = 0.22 and half alpha = 0.11

$$CV = 1.22653 \text{ (NOT famous)}$$

$$= \text{invnorm}(0.11, 0, 1)$$

$$n = [(1.22653)^2 (0.25)] / (0.04)^2$$

$$= 235.058$$

WE ALWAYS ROUND THIS UP TO NEXT INTEGER!

$$= 236.$$

$$n = \frac{(1.227)^2 \cdot 0.25}{(0.04)^2} \rightarrow 235.239 = 236.$$