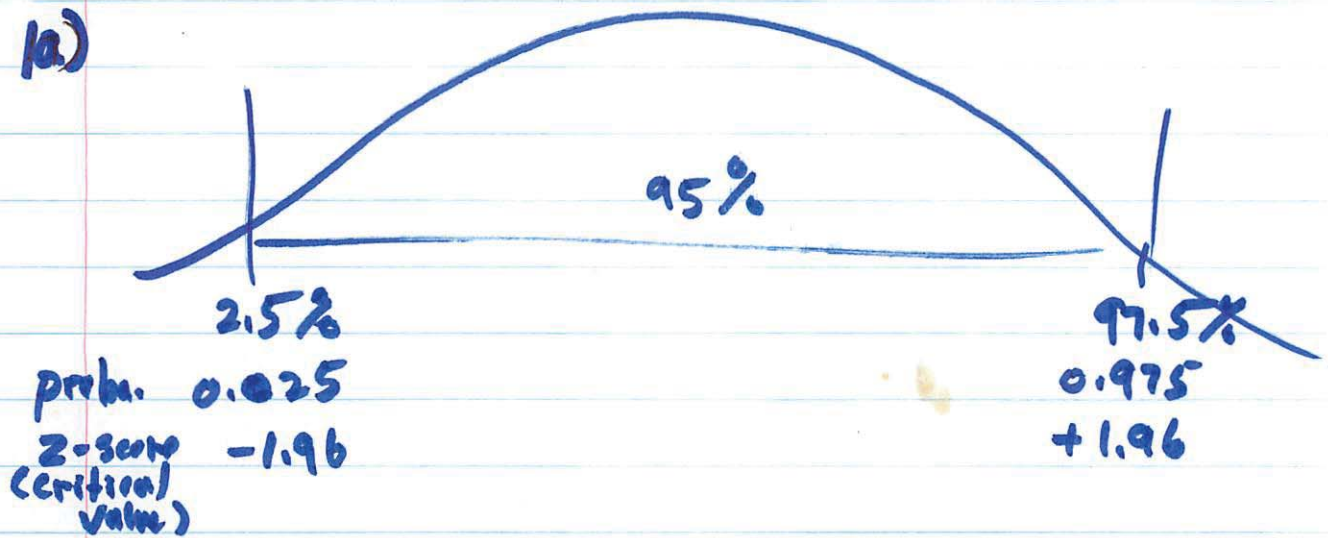


1a)



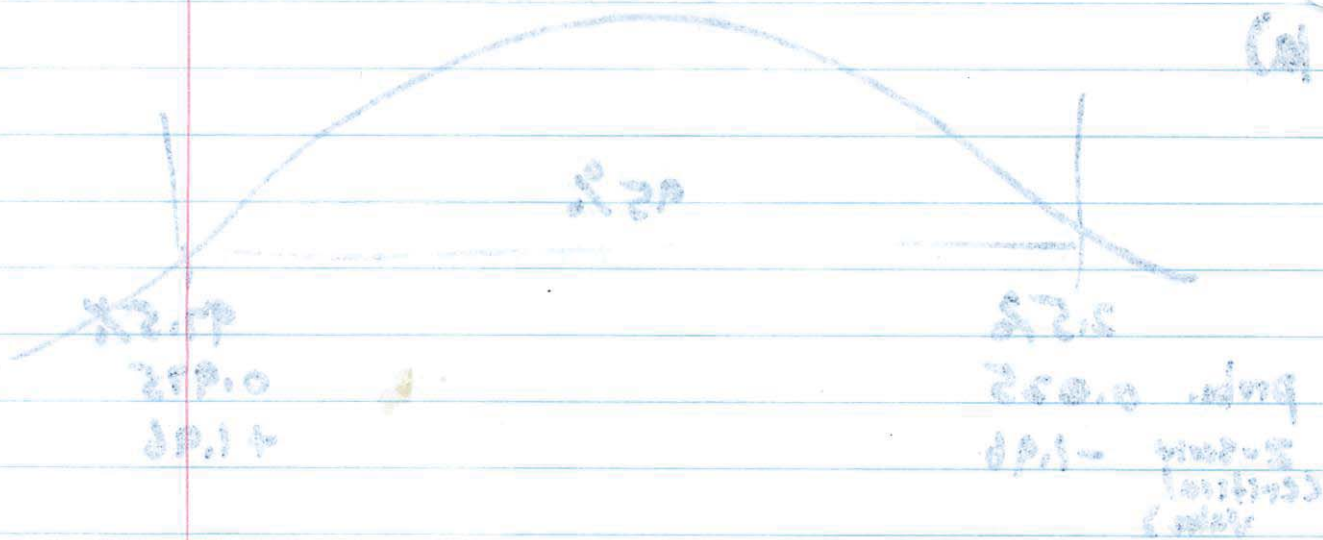
$$\begin{aligned} & \pm 1.96 \sqrt{\frac{(0.25)(0.75)}{100}} \\ & \approx \pm 1.96 \sqrt{0.001875} \\ & = (\pm 1.96)(0.04330127) \\ & = \pm 0.08487049 \\ & \approx \pm 8.5\% \end{aligned}$$

$$\begin{aligned} 25\% - 8.5\% &= 16.5\% \\ 25\% + 8.5\% &= 33.5\% \end{aligned}$$

confidence interval:

$$16.5\% \sim 33.5\%$$

Cal



$$\frac{(25.0)(25.0)}{100} \sqrt{1.0 \pm}$$

$$\pm 1.0 \sqrt{10.01875}$$

$$(25.0 \pm 3.16) (1.0 \pm) =$$

$$25.0 \pm 3.16 =$$

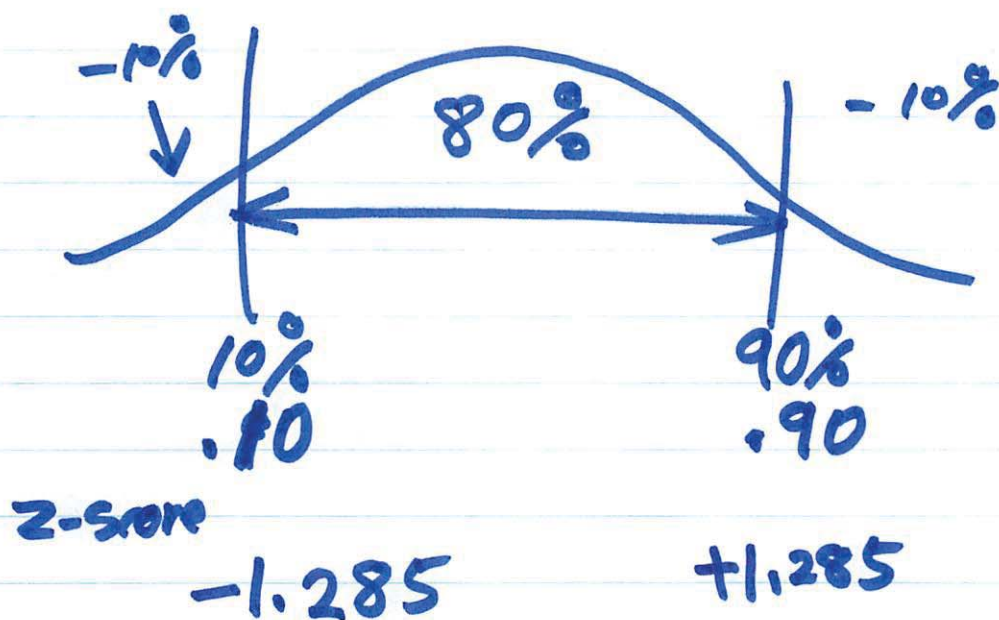
$$2.8 \pm$$

$$\begin{aligned} 2.01 &= 2.8 - 0.79 \\ 2.99 &= 2.8 + 0.19 \end{aligned}$$

confidence interval

$$2.99 \sim 2.01$$

1b)



$$\pm 1.285 \sqrt{\frac{(.25)(.75)}{80}}$$

$$\approx \pm 1.285 \sqrt{0.00234375}$$

$$\approx (\pm 1.285) (0.048412292)$$

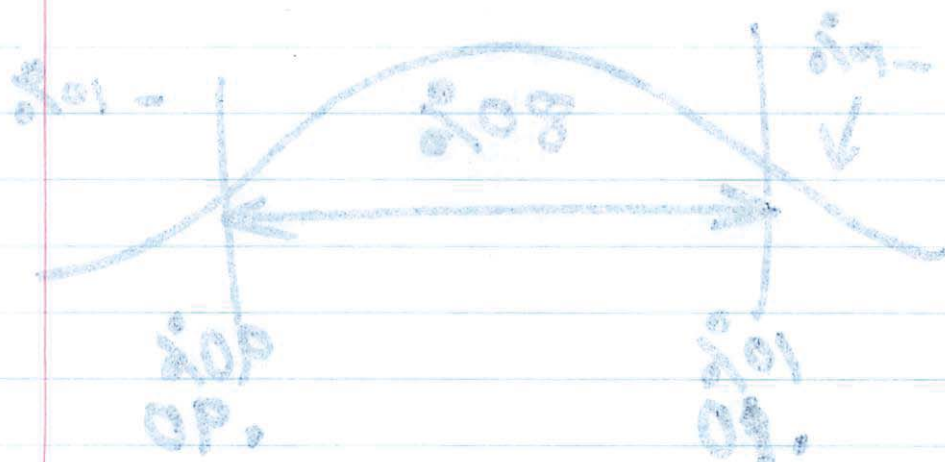
$$\approx \pm 0.062209795$$

$$\approx \pm 6.2\%$$

Confidence interval: 18.8% ~ 31.2%

$$25 - 6.2 \approx 18.8$$

$$25 + 6.2 \approx 31.2$$



285.17

285.1

$$\frac{(285.1)(285.1)}{0.08} \sqrt{285.1 \pm 1.382}$$

$$285.1 \pm 1.382 \sqrt{0.08}$$

$$(285.1 \pm 1.382 \sqrt{0.08}) (285.1 \pm 1.382 \sqrt{0.08})$$

$$285.1 \pm 1.382 \sqrt{0.08}$$

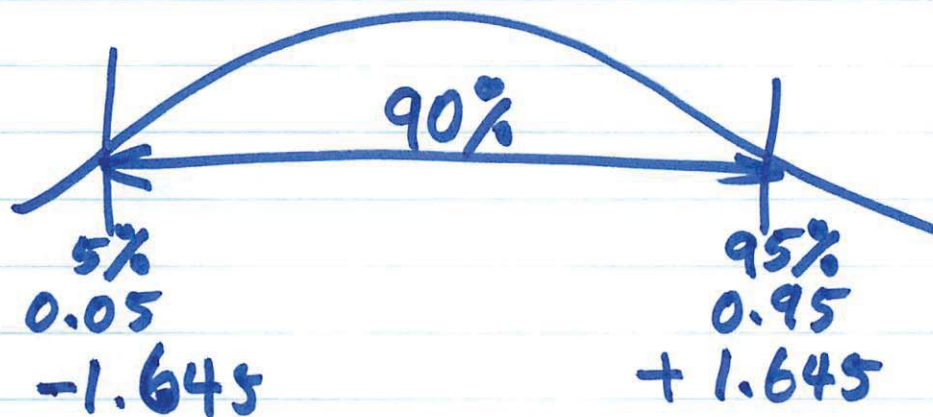
$$285.1 \pm 1.382 \sqrt{0.08}$$

Confidence Interval: 18.81 to 31.5

$$31.5 = 285.1 - 25$$

$$18.81 = 285.1 + 25$$

2)



critical
value
(z-score)

$$\pm 1.645 \sqrt{\frac{(.375)(.625)}{64}}$$

$$\approx \pm 1.645 \sqrt{0.003662109}$$

$$\approx \pm 1.645 (0.060515362)$$

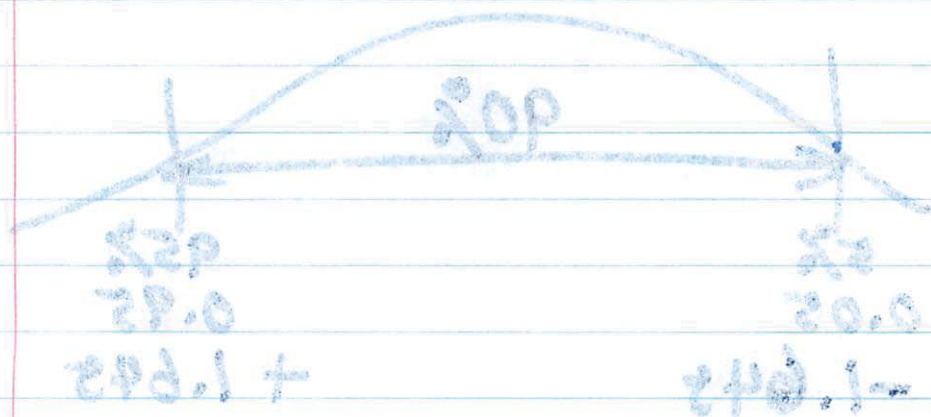
$$\approx \pm 0.09954777$$

$$\approx \pm 10\%$$

Confidence Interval : 27.5% ~ 47.5%

$$37.5\% - 10\% \approx 27.5\%$$

$$37.5\% + 10\% \approx 47.5\%$$



$$\frac{(240.1 \pm 1.042)}{\sqrt{(240.1 \pm 1.042)^2 + (240.1 \pm 1.042)^2}}$$

$$240.1 \pm 1.042 \sqrt{0.003995104}$$

$$240.1 \pm 1.042 (0.06312895)$$

$$240.1 \pm 0.06542477$$

$$240.1 \pm 0.01$$

Confidence Interval: 240.1 ± 0.01

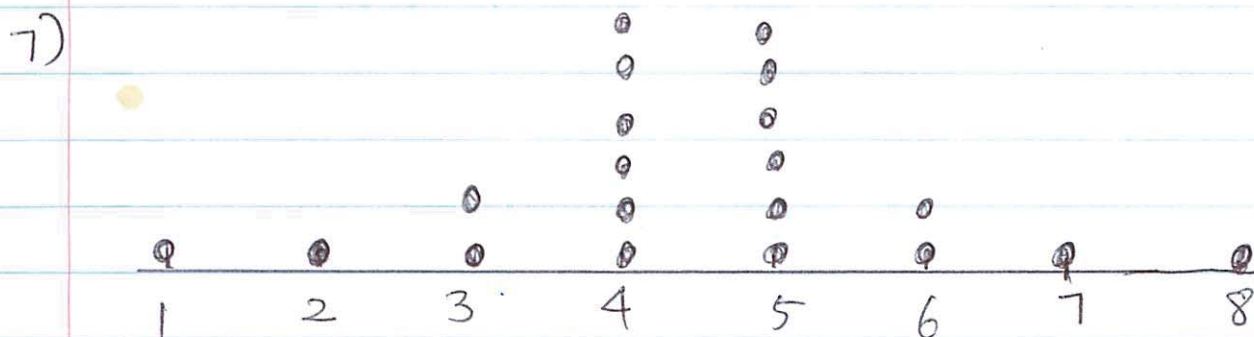
$$240.1 \pm 0.01 \text{ to } 240.1 \pm 0.01$$

$$240.1 \pm 0.01 \text{ to } 240.1 \pm 0.01$$

6) option 1) Use ten random integers,
where 001 - 060 make
061 - 100 missed.

option 2) use ten random integers,
where 00 - 59 make
60 - 99 missed.

option 3) use ten random integer,
where 0 - 5 make
6 - 9 missed



8) $\frac{4}{20} \approx 20\%$

9) It's ~~very~~ unlikely that 60% shooter
makes 6 or more shots in 20 attempts.

3. repeat. number not 5.2. (10/10/10) 1.3

number 300 - 100 = 200

number 200 - 100 = 100

4. repeat. number not 5.2. (10/10/10) 1.3

number 100 - 100 = 0

number 100 - 100 = 0

5. repeat. number not 5.2. (10/10/10) 1.3

number 0 - 100 = 100

number 100 - 100 = 0

0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

6. repeat. number not 5.2. (10/10/10) 1.3

7. repeat. number not 5.2. (10/10/10) 1.3

16)

$$\pm 1.96 \sqrt{\frac{(0.30)(0.70)}{500}}$$

$$\approx \pm 1.96 \sqrt{0.00042}$$

$$\approx \pm 1.96 (0.020493902)$$

$$\approx \pm 0.040$$

$$\approx \pm 4\%$$

$$30\% \pm 4\% = 26\%$$

$$30\% + 4\% = 34\%$$

$$26\% \sim 34\%$$

11) null hypothesis

$$H_0 : \mu = 200$$

alternate hypothesis

$$H_a : \mu < 200$$

$$20\% = \pi : \sigma$$

enthalpy loss in

$$20\% > \pi : \sigma$$

enthalpy loss in

$$12) \pm 0.02 = \pm 2.325 \sqrt{\frac{(0.8)(0.2)}{n}}$$

$$0.02 = (2.325) \sqrt{\frac{(0.8)(0.2)}{n}}$$

$$\frac{0.02}{2.325} = \sqrt{\frac{(0.8)(0.2)}{n}}$$

$$(0.008602151)^2 = \sqrt{\frac{(0.8)(0.2)}{n}}^2$$

$$0.000073997 = \frac{(0.8)(0.2)}{n}$$

$$\frac{0.000073997n}{0.000073997} = \frac{(0.8)(0.2)}{0.000073997}$$

$$n = 2162.249821$$

$$n \approx 2162$$

$$\frac{(4.0)(8.0)}{10} \sqrt{288.2} = 20.7 \text{ (a)}$$

$$\frac{(4.0)(8.0)}{10} \sqrt{288.2} = 20.7$$

$$\frac{(4.0)(8.0)}{10} \sqrt{288.2} = 20.7$$

$$\frac{(4.0)(8.0)}{10} \sqrt{288.2} = 20.7$$

$$\frac{(4.0)(8.0)}{10} \sqrt{288.2} = 20.7$$

$$\frac{(4.0)(8.0)}{10} \sqrt{288.2} = 20.7$$

$$1 - 2PH = 2.12 = 1$$

$$2.12 = 1$$

14)

$$a) \frac{10}{50} = 0.2 \quad 20\%$$

$$b) \frac{30}{40} = 0.75 \quad 75\%$$

20% completion rate is way lower than
70% of his completion rate.

$$\frac{1}{2} \times 2.0 = 1.0 \quad (1.0) \quad (1.0)$$

$$\frac{1}{2} \times 2.0 = 1.0 \quad (1.0)$$

with each other and with the other side of the road
 with each other and with the other side of the road

15) a)

$$\sqrt{\frac{p(1-p)}{n}}$$

$$= \sqrt{\frac{(0.3)(0.7)}{520}}$$

$$= \sqrt{0.000403846}$$

$$\approx 0.02009592$$

$$\approx 0.02$$

15) b)

$$\pm 1.96 \sqrt{\frac{p(1-p)}{n}}$$

$$\approx (\pm 1.96)(0.02)$$

$$\approx 0.0392$$

$$\approx 3.92\%$$

$$\textcircled{a} \quad 30\% - 3.92\% = 26.08\%$$

$$30\% + 3.92\% = 33.92\%$$

$$26.08\% \sim 33.92\%$$

$$(9-1)9$$

$$v(0)$$

$$10 \quad \downarrow$$

$$(10) \text{CP.E}$$

$$10 \quad \downarrow$$

$$102504000.0$$

$$\downarrow$$

$$\text{CP.P.02010} \quad \downarrow$$

$$20.0 \quad \downarrow$$

$$(9-1)9 \quad \downarrow$$

$$10 \quad \downarrow$$

$$10 \pm$$

$$(10)$$

$$(10.0) (10 \pm)$$

$$\text{CP.E.0}$$

$$\Delta \text{CP.E}$$

$$\Delta \text{CP.E} = \Delta \text{CP.E} - \Delta \text{CP.E} = 0$$

$$\Delta \text{CP.E} = \Delta \text{CP.E} + \Delta \text{CP.E}$$

$$\Delta \text{CP.E} \sim \Delta \text{CP.E}$$