

```
> towns = read.csv(file.choose())
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1)

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> acre.Grenora = towns[towns[,1]=="Grenora",2]
> acre.Zahl = towns[towns[,1]=="Zahl",2]
> acre.Plentywood = towns[towns[,1]=="Plentywood",2]
> acre.Glasgow = towns[towns[,1]=="Glasgow",2]
> acre.Malta = towns[towns[,1]=="Malta",2]
> acre.Lewistown = towns[towns[,1]=="Lewistown",2]
> acre.Williston = towns[towns[,1]=="Williston",2]

> sam = sample(acre.Grenora, 25); mean(sam)
[1] 174.16
> sam = sample(acre.Zhal, 25); mean(sam)
[1] 160.88
> sam = sample(acre.Plentywood, 25); mean(sam)
[1] 183.2
> sam = sample(acre.Glasgow, 25); mean(sam)
[1] 162.88
> sam = sample(acre.Glasgow, 25); mean(sam)
[1] 161.68
> sam = sample(acre.Malta, 25); mean(sam)
[1] 171.08
> sam = sample(acre.Lew, 25); mean(sam)
Error in sample(acre.Lew, 25) : object 'acre.Lew' not found
> sam = sample(acre.Lewistown, 25); mean(sam)
[1] 172.28
> sam = sample(acre.Williston, 25); mean(sam)
[1] 171.56
> a = 620
> (84/a)*174.16 + (87/a)*160.88 + (87/a)*183.2 + (91/a)*162.88 + (89/a)*171.08 + (90/a)*172.28 +
(92/a)*171.56
[1] 170.8086
```

2)

```
> name = "Zahl"; wheat = towns[towns[,1]==name,3]; sam = sample(wheat, 30); sum(sam)/20
[1] 1.1
> name = "Plentywood"; wheat = towns[towns[,1]==name,3]; sam = sample(wheat, 30); sum(sam)/20
[1] 1.45
> name = "Glasgow"; wheat = towns[towns[,1]==name,3]; sam = sample(wheat, 30); sum(sam)/20
[1] 0.85
> name = "Malta"; wheat = towns[towns[,1]==name,3]; sam = sample(wheat, 30); sum(sam)/20
[1] 1.25
> name = "Lewistown"; wheat = towns[towns[,1]==name,3]; sam = sample(wheat, 30); sum(sam)/20
```

```
[1] 1.2
> name = "Williston"; wheat = towns[towns[,1]==name,3]; sam = sample(wheat, 30); sum(sam)/20
[1] 1
> a
[1] 620
> (84/a)*1.05 + (87/a)*1.1 + (87/a)*1.45 + (91/a)*.85 + (89/a)*1.25 + (90/a)*1.2 + (92/a)
[1] 1.126855
```

3)

```
> sample(1:6,4)
[1] 4 6 3 5
```

```
> name = "Glasgow"; akre = towns[towns[,1]==name,2]; sum(akre)
[1] 14850
> name = "Lewistown"; akre = towns[towns[,1]==name,2]; sum(akre)
[1] 15488
> name = "Plentywood"; akre = towns[towns[,1]==name,2]; sum(akre)
[1] 15874
> name = "Malta"; akre = towns[towns[,1]==name,2]; sum(akre)
[1] 15148
> (7/(4*a))*(14850+15488+15874+15148)
[1] 173.1935
```

4)

Using same 4 clusters

```
> name = "Glasgow"; wheat = towns[towns[,1]==name,3]; sum(wheat)
[1] 56
> name = "Lewistown"; wheat = towns[towns[,1]==name,3]; sum(wheat)
[1] 74
> name = "Plentywood"; wheat = towns[towns[,1]==name,3]; sum(wheat)
[1] 81
> name = "Malta"; wheat = towns[towns[,1]==name,3]; sum(wheat)
[1] 82

> (6/(4*a))*(56+74+81+82)
[1] 0.708871
```