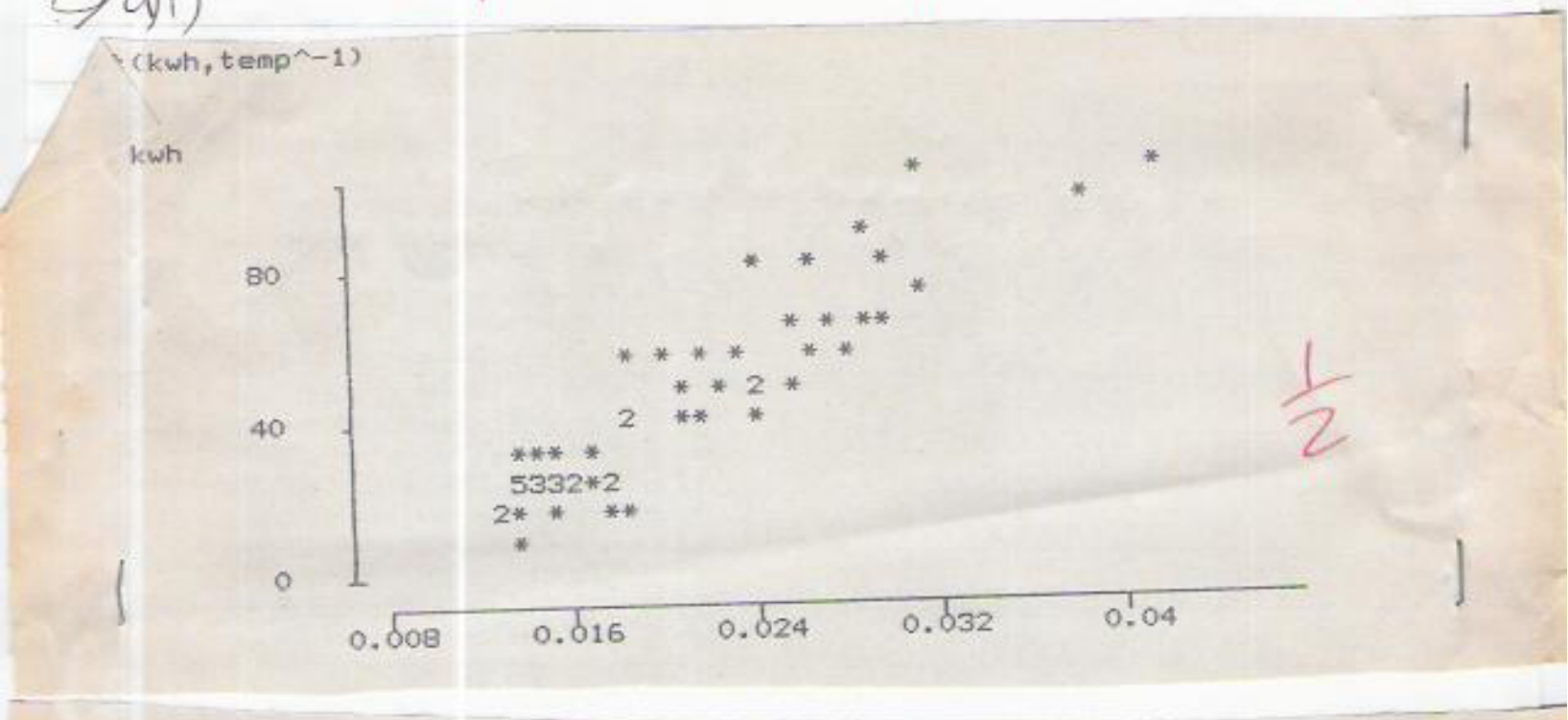
The question asks you to use temperature as the predictor not 1/temperature

3) a) i)




```
pmcorr(kwh,temp^-1)
        0.9171
pmcorr(kwh,temp^-0.5)
        0.9171
pmcorr(kwh,temp^-0.25)
        0.9145
```

The correlation of the graph shown is very high, higher than for any similar transformation. Given this level of correlation, the average temperature would indeed provide a useful predictor for electricity usage

ii) The slope of electricity consumption against the reciprocal of the temperature is positive FT 3/3

```
linefit(kwh,temp^-1)
  α = -22.97   / β =  3244   / RSS =  4945
  Fit: kwh = -22.97  +  3244 * (explanatory)
```

Hence a rise in temperature leads to a fall in electricity consumption, according to the equation

Kwh = -22.97 + 3244/temp

(Temp in °Fahrenheit)