ods graphics off;

options formdlim = "~";

data cheese;

input case taste acetic h2s lactic;

cards;

1 12.3 4.543 3.135 0.86

2 20.9 5.159 5.043 1.53

3 39.0 5.366 5.438 1.57

4 47.9 5.759 7.496 1.81

5 5.6 4.663 3.807 0.99

6 25.9 5.697 7.601 1.09

7 37.3 5.892 8.726 1.29

8 21.9 6.078 7.966 1.78

9 18.1 4.898 3.850 1.29

10 21.0 5.242 4.174 1.58

11 34.9 5.740 6.142 1.68

12 57.2 6.446 7.908 1.90

13 0.7 4.477 2.996 1.06

14 25.9 5.236 4.942 1.30

15 54.9 6.151 6.752 1.52

16 40.9 6.365 9.588 1.74

17 15.9 4.787 3.912 1.16

18 6.4 5.412 4.700 1.49

19 18.0 5.247 6.174 1.63

20 38.9 5.438 9.064 1.99

21 14.0 4.564 4.949 1.15

22 15.2 5.298 5.220 1.33

23 32.0 5.455 9.242 1.44

24 56.7 5.855 10.199 2.01

25 16.8 5.366 3.664 1.31

26 11.6 6.043 3.219 1.46

27 26.5 6.458 6.962 1.72

28 0.7 5.328 3.912 1.25

29 13.4 5.802 6.685 1.08

30 5.5 6.176 4.787 1.25

;

run;

\*Step 1;

proc glm data = cheese;

model taste = acetic;

output out = step01 r = yx1;

run;

quit;

\*Step 2;

proc glm data = step01;

model h2s = acetic;

output out = step02 r = x2x1;

run;

quit;

\*Step 3;

proc glm data = step02;

model yx1 = x2x1;

output out = step03 r = yx2\_x1;

run;

quit;

\*Step 4;

proc glm data = step03;

model taste = acetic h2s;

output out = step04 r = yx1x2;

run;

quit;

proc print data = step04;

run;

quit;

\* Step-Extra ;

proc corr data = step04 nosimple noprob;

var case taste acetic h2s lactic yx1 x2x1 yx2\_x1 yx1x2 ;

run;

quit;

/\*Answers \*/

/\*

SSR\_Step1 = Type I SS of x\_1 in Step 4

SSR\_Step3 = Type I/Type III SS of x\_2 in Step 4

r\_y|x1 = 0.549

r\_y|x\_2x\_1 = 0.529

r-sqaure\_y|x1 + r-square\_y|x2\_x1 = R-square in Step-4

r\_x2|x2x1 = 0

\*/