Solution 17.15

MATLAB can be used to develop the solution:

```
>> format short g
>> x=[1 2 3 4 5]';
>> y=[2.2 2.8 3.6 4.5 5.5]';
>> Z=[ones(size(x)) x 1./x]
                       1
           1
                      2
                                  0.5
          1
                      3
                             0.33333
                     4
                               0.25
           1
                     5
                                 0.2
           1
>> ZTZ=Z'*Z
ZTZ =
                      15
                               2.2833
                      55
                                    5
          15
                     5
      2.2833
                               1.4636
>> ZTy=Z'*y
ZTy =
        18.6
        64.1
       7.025
>> a=inv(ZTZ)*ZTy
a =
      0.3745
     0.98644
     0.84564
```

Therefore, the solution is

$$y = 0.3745 + 0.98644x + \frac{0.84564}{x}$$

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