Answer to Even-Numbered Exercise

Exercise 40 (p. 306)

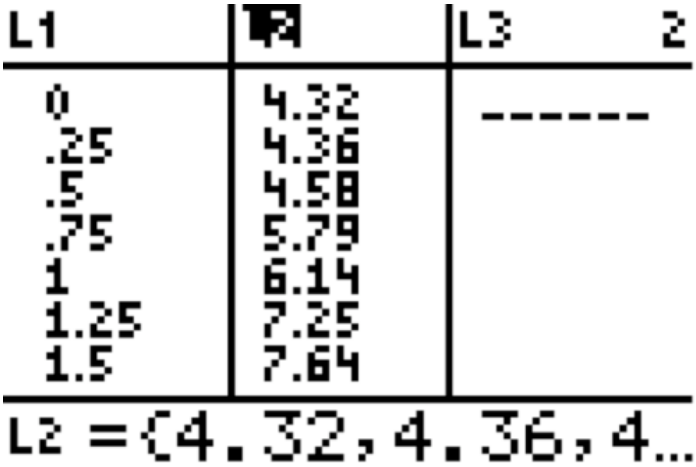
$n = 8$

$$A = \frac{2-0}{16}[f(0) + 2f(.25) + 2f(.5) + 2f(.75) + 2f(1) + 2f(1.25) + 2f(1.5) + 2f(1.75) + f(2)]$$

$$A = \frac{1}{8}(4.32 + 2 \cdot 4.36 + 2 \cdot 4.58 + 2 \cdot 5.79 + 2 \cdot 6.14 + 2 \cdot 7.25 + 2 \cdot 7.64 + 2 \cdot 8.08 + 8.14)$$

$$A = 13.663$$

Enter the data into the calculator using Stat-Edit.



After you enter the data, go to Stat-Calc and do a quadratic regression.

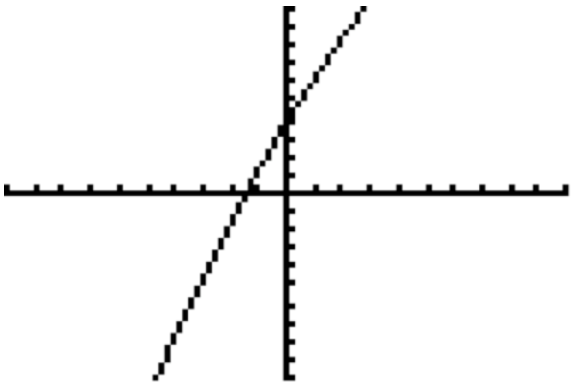
```
EDIT CALC TESTS
1:1-Var Stats
2:2-Var Stats
3:Med-Med
4:LinReg(ax+b)
5:QuadReg
6:CubicReg
7↓QuartReg
```

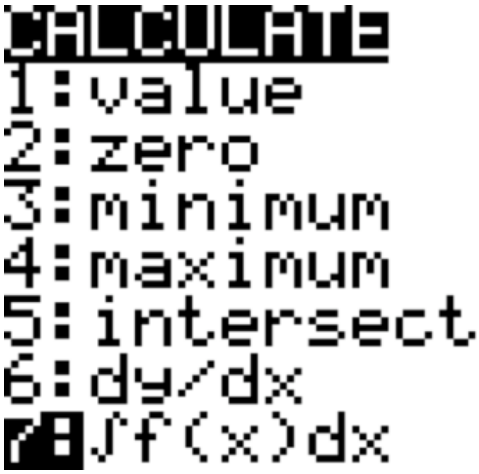
```
QuadReg
 y=ax²+bx+c
 a=-.1087445887
 b=2.485489177
 c=3.924121212
 R²=.9574031931
```

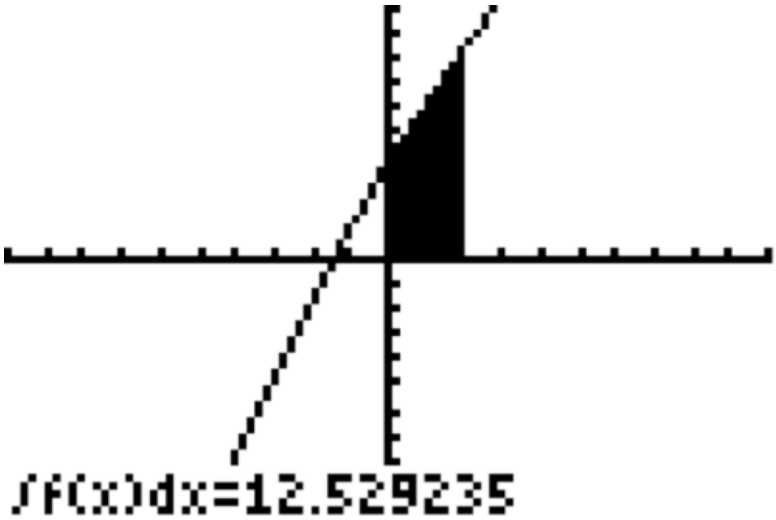
To graph this function, just go to the Y= screen and then press VARS – Statistics – EQ – RegEQ.

```
 Plot1 Plot2 Plot3
\Y1=-.1087445887
4464X^2+2.485489
1774893X+3.92412
12121213
\Y2=
\Y3=
\Y4=
```

Now press Graph and calculate the integral from 0 to 2.







Only off by one—not too bad.