

8_1:

```
(ipcvdl) (base) iris@Yen-Hsun-2 F14106155
iris/Library/CloudStorage/GoogleDrive-irisdrive@gmail.com/
w8/8_1.py

(a)
 $y \approx 6.6912 x^2 + (-1.8837)x + 3.0864$ 
error: 0.0052

(b)
 $y \approx 21.4445 * e^{0.3985x}$ 
error: 94.9830

(c)
 $y \approx 6.2390 * x^{2.0196}$ 
error: 0.0117
```

8_2:

```
(ipcvdl) (base) iris@Yen-Hsun-2 F14106155_numerical_h
iris/Library/CloudStorage/GoogleDrive-irisdrive@gmail.com/
w8/8_2.py

P2(x) = 0.49828 + 0.32655x + (-0.23263)x^2
error = 0.00324
```

8_3:

```
(ipcvdl) (base) iris@Yen-Hsun-2 F14106155_numerical_h
iris/Library/CloudStorage/GoogleDrive-irisdrive@gmail.com/
w8/8_3.py

(a) S_4(x) coefficients
a_0 = 0.4592
a_1 = -0.1468    b_1 = 0.2323
a_2 = 0.0546    b_2 = -0.1249
a_3 = -0.0389   b_3 = 0.0829
a_4 = 0.0335    b_4 = -0.0609

(b)
Integral  $\approx 0.2296$ 

(c)
Integral  $\approx 0.2232$ 

Compare with (b):
Absolute error = 0.0064, Relative error = 2.8482%

(d)
Error  $\approx 0.5056$ 
```