```
from datetime import datetime
from pandas import read_csv
from pandas import DataFrame
from statsmodels.tsa.arima.model import ARIMA
from matplotlib import pyplot
def parser(x):
    return datetime.strptime('190'+x, '%Y-%m')
series = read_csv('shampoo_sales.csv', header=0, index_col=0, parse_dates=True, date_parser=parser)

series.index = series.index.to_period('M')

model = ARIMA(series, order=(5,1,0))
model_fit = model.fit()

print(model_fit.summary())
```

```
residuals = DataFrame(model_fit.resid)
residuals.plot()
pyplot.show()

residuals.plot(kind='kde')
pyplot.show()

print(residuals.describe())
```