

```

> model4 <- lm(price ~ poly(engine size, 2, raw = TRUE), data = df)
> summary(model4)

Call:
lm(formula = price ~ poly(engine size, 2, raw = TRUE), data = df)

Residuals:
    Min       1Q   Median       3Q      Max
-9402.6 -1980.5   -49.2   1462.8 13778.1

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)    -1.251e+04  2.312e+03  -5.410 1.88e-07 ***
poly(engine size, 2, raw = TRUE)1  2.217e+02  2.943e+01   7.532 1.97e-12 ***
poly(engine size, 2, raw = TRUE)2 -1.439e-01  8.469e-02  -1.700  0.0908 .

```

price = $b_0 + b_1 \cdot \text{engine size} + b_2 \cdot \text{engine size}^2$

```

> model5 <- lm(price ~ log(engine size), data = df)
> summary(model5)

Call:
lm(formula = price ~ log(engine size), data = df)

Residuals:
    Min       1Q   Median       3Q      Max
 -9694  -2225    115    1795   14442

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)    -109803     4923   -22.30  <2e-16 ***
log(engine size)  25584     1022    25.04  <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 3919 on 191 degrees of freedom
Multiple R-squared:  0.7665, Adjusted R-squared:  0.7653
F-statistic: 627.1 on 1 and 191 DF, p-value: < 2.2e-16

```

price = $b_0 + b_1 \cdot \log(\text{engine size})$