Proportion of Variability

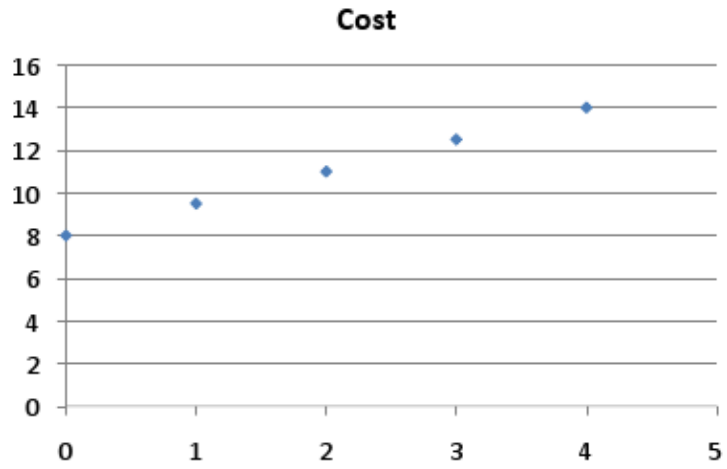
Coefficient of Determination

r^2

- Percent of variablity in y predicted by the variability in x
- $0 \leq r^2 \leq 1$ (remember $-1 \leq r \leq 1$)
- Want higher r^2

Ex: Pizza prices, $8 for a pie

- $1.50 per topping



- Ent

# of toppings	Pizza Cost
0	8
1	9.5
2	11
3	12.5
4	14

- STAT CALC LinReg Find r^2

- 100% of the variability in the cost of pizza is determined by the variation in the number of toppings

- Use context when interpreting r^2

This is a high/ good proportion of variability

Good Linear Fit

Use Line to Predict y from x

$$\hat{y} = a + bx$$

a is y intercept

b is slope

y hat is predicted value (from explanatory, x)

Interpret Slope

- Use context
- Ie. predicted cost of pizza $