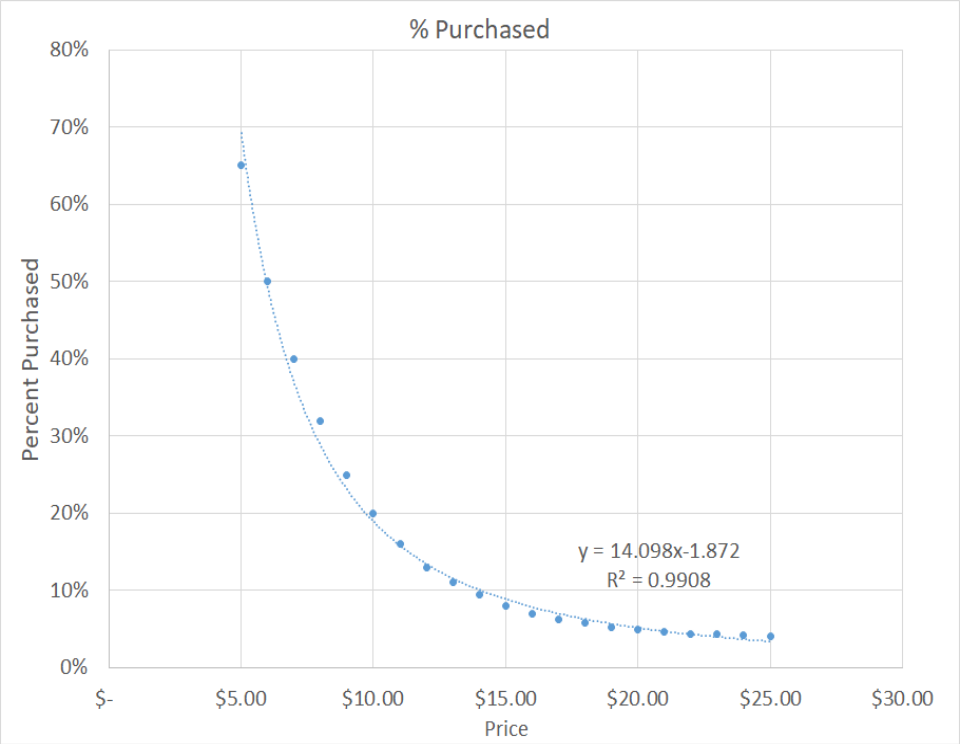
1A. Graph for Percent Purchased Vs Price

1B. Power Regression to determine predicted values.

$y = 14.098x^{-1.872}$

$R^2 = 0.9908$


% Purchased
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent Purchased
$-
$5.00
$10.00
$15.00
$20.00
$25.00
$30.00
Price
y = 14.098x-1.872
R² = 0.9908


% Purchased
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent Purchased
$-
$5.00
$10.00
$15.00
$20.00
$25.00
$30.00
Price
y = 14.098x-1.872
R² = 0.9908

	A	B	C	D	E	F
1	Price	% Purchased	Predicted %	Predicted Sales	Revenue	Profit
2	$ 5.00	65%	69%	69292	$ 346,462.04	-
3	$ 6.00	50%	49%	49256	$ 295,535.47	49,255.91
4	$ 7.00	40%	37%	36909	$ 258,364.01	73,818.29
5	$ 8.00	32%	29%	28746	$ 229,965.69	86,237.13
6	$ 9.00	25%	23%	23058	$ 207,519.08	92,230.70
7	$ 10.00	20%	19%	18930	$ 189,303.00	94,651.50
8	$ 11.00	16%	16%	15837	$ 174,205.99	95,021.45
9	$ 12.00	13%	13%	13456	$ 161,477.29	94,195.09
10	$ 13.00	11%	12%	11584	$ 150,590.96	92,671.36
11	$ 14.00	10%	10%	10083	$ 141,167.22	90,750.36
12	$ 15.00	8%	9%	8862	$ 132,924.77	88,616.52
13	$ 16.00	7%	8%	7853	$ 125,650.69	86,384.85
14	$ 17.00	6%	7%	7011	$ 119,180.73	84,127.58
15	$ 18.00	6%	6%	6299	$ 113,386.12	81,889.97
16	$ 19.00	5%	6%	5693	$ 108,164.41	79,700.09
17	$ 20.00	5%	5%	5172	$ 103,433.05	77,574.79
18	$ 21.00	5%	5%	4720	$ 99,124.79	75,523.65
19	$ 22.00	4%	4%	4327	$ 95,184.21	73,551.44
20	$ 23.00	4%	4%	3981	$ 91,565.28	71,659.79
21	$ 24.00	4%	4%	3676	$ 88,229.40	69,848.27
22	$ 25.00	4%	3%	3406	$ 85,143.95	68,115.16
23						
24	Book Cost	$ 5.00				
25	Customer	100000				

2A

For the scenario where the cost is $5 the optimal price point is 10.73. For the scenario where the cost is $4.50 and we need to sell a minimum of 30,000 copies the optimal price is $7.82. For the scenario where the cost is $4.00 and we need to sell a minimum of 50,000 copies the optimal price is $5.95.

	Price	Predicted %	Predicted Sales	Revenue	Profit	Cost	Minimum to Sell
1	$ 10.73	16.58%	16580	$ 177,965.30	$ 95,066.94	$ 5.00	
2	$ 7.82	30.00%	30000	$ 234,586.50	$ 99,586.50	$ 4.50	30000
3	$ 5.95	50.00%	50000	$ 297,606.78	$ 97,606.78	$ 4.00	50000

2B

Scenario #2 is the most optimal configuration of the three. Even though you need to sell a minimum of 30,000 books this model predicts you can generate a higher profit then the other two scenarios. The 2nd scenario yields a profit of $99,586.51 which is roughly $2,000 more than scenario 3 and $4,000 more than in scenario 1.

3A

A possible risk is the sequel may not be desired as much as Harry Potter 7. This could lead to purchasing patterns being driven by consumer preference rather than price point. In our previous example price was more of a driving factor and we are unable to determine if the same sample of people will take interest in the sequel. This creates to possible factors that affect sales rather than one.

3B

- Demand of Product
- Purchasing Power of Demographic
- # of people that have read a previous Harry Potter novel
- Gender of Consumer
- Age of Consumer
- Genre Preference of Consumer