The Price of College Mathematical Computations

1. Linear Equations and R2 values  
   The R2 value represents how well the linear equation fits the data. A 1 means that the line fits the data well and all of the point lie on the line. Conversely, a 0 means that the line does not fit the data at all because the data are spread out and don’t fall on any sort of line.
   1. Colorado College
      1. Tuition
         1. (2, 28644) (6, 36044)
      2. Tuition w/ Fees
         1. (1, 28644) (6, 37478)
   2. Colorado State University
      1. Tuition
      2. Tuition w/ Fees
2. Average Percent Increase for the past ten years
   1. The average percent increase for tuition at Colorado College for 2004-2014 is 6%. The average percent increase for tuition at Colorado State University is 11%. The data states that public schools have a higher tuition increase rate, but I can’t think of a reason that would be.
3. Projected average percent increase for the time I will be in college
   1. The projected average percent increase for tuition at Colorado College is 4%. The projected average percent increase for tuition at Colorado State University is 6%.
4. Highest Tuition Increase
   1. The highest tuition increase for Colorado College was between the 2012-2013 school year and the 2013-2014 school year, where the price increased by $2,890.00, going from $41,332.00 to $44,222.00. This value is not significantly higher than the other values.
   2. The highest tuition increase for Colorado State University was between the 2010-2011 school year and the 2011-2012 school year, where the price increased by $1,051.00, going from $5256.00 to $6,307.00. This value is not significantly higher than the other values.
5. Total Cost for a 4-year Degree
   1. The cost of a 4-year undergraduate degree for the time I will be in college at Colorado College is $199,819.20 just for the tuition and $204,116.40 for tuition and fees, not including room and board.
   2. The cost of a 4-year undergraduate degree for the time I will be in college at Colorado State University is $36,494.84 just for the tuition and $44,877.30 for tuition and fees, not including room and board.
6. –
7. Repayment Plans (Interest Rate: 6.8%)
   1. Colorado College: $204,116.40
      1. The standard fixed repayment plan will last for 120 months (10 years). Each monthly payment will be $2,348.97. In total, the cost will be $281,876.84.
         1. Principle: $204,116.40
         2. Total Payback: $281,876.84
         3. Total Interest Paid: $77,760.00
      2. The extended fixed repayment plan will last for 300 months (25 years). Each monthly payment will be $1,416.71. In total, the cost will be $425,013.66.
         1. Principle: $204,116.40
         2. Total Payback: $425,013.66
         3. Total Interest Paid: $220,847.26
      3. The graduated repayment plan will last 120 months (10 years). The initial monthly payment will be $1,354.92 for the first two year and the final monthly payment will be $4064.76 for the last two years. In total, the cost will be $303,315.56.
         1. Principle: $204,116.40
         2. Total Payback: $303,315.56
         3. Total Interest Paid: $99,199.16
      4. The extended graduated repayment plan will last 300 months (25 years). The initial monthly payment will be $1,156.66 for first two years and the final monthly payment will be $2,023.88 for the last two years. In total, the cost will be $460,353.61.
         1. Principle: $204,116.40
         2. Total Payback: $460,353.61
         3. Total Interest Paid: $256,237.21
   2. Colorado State University: $44,788.30
      1. The standard fixed repayment plan will last for 120 months (10 years). Each monthly payment will be $516.45. In total, the cost will be $61,973.93.
         1. Principle: $44,788.30
         2. Total Payback: $61,973.93
         3. Total Interest Paid: $17,185.63
      2. The extended fixed repayment plan will last for 300 months (25 years). Each monthly payment will be $311.48. In total, the cost will be $93,444.25.
         1. Principle: $44,788.30
         2. Total Payback: $93,444.25
         3. Total Interest Paid: $48,655.95
      3. The graduated repayment plan will last 120 months (10 years). The initial monthly payment will be $297.89 for the first two year and the final monthly payment will be $893.67 for the last two years. In total, the cost will be $66,687.70.
         1. Principle: $44,788.30
         2. Total Payback: $66,687.70
         3. Total Interest Paid: $21,899.40
      4. The extended graduated repayment plan will last 300 months (25 years). The initial monthly payment will be $254.30 for first two years and the final monthly payment will be $445.03 for the last two years. In total, the cost will be $101,211.01.
         1. Principle: $44,788.30
         2. Total Payback: $101,211.01
         3. Total Interest Paid: $56,422.71
8. –
9. Linear or Exponential Functions for Repayment Plans
   1. Colorado College
      1. Standard Fixed
         1. (1, 2348.98), (10, 2348.98)
      2. Standard Graduated
      3. Extended Fixed
         1. (1, 1416.71), (10, 1416.71)
      4. Extended Graduated
   2. Colorado State University
      1. Standard Fixed
         1. (1, 516.45), (10, 516.45)
      2. Standard Graduated
      3. Extended Fixed
         1. (1, 516.45), (10, 516.45)
      4. Extended Graduated
         1. (1, 254.30), (25, 445.03)
10. Which one is cheaper?
    1. In conclusion, it is abundantly clear that going to Colorado State University would be vastly cheaper than going to Colorado College. The total tuition and fees for the four years I would be in undergraduate school would be $159,328.10 dollars cheaper if I were to go to Colorado State University. If I were to choose the Standard Fixed repayment plan, I would be paying $516.45 a month for CSU, instead of $2,348.97 for CC, saving me $1,832.52. If I went to Colorado State University, I would pay $17,185.63 in interest back to the bank. That’s $60,574.37 less for interest than if I went to Colorado College. Overall, but not including room and board, it would be $219,902.91 cheaper to attend Colorado State University as opposed to Colorado College.