Bill James developed the Pythagorean Theorem for Baseball, \( W/L = (RS/RA)^2 \). In this formula for an entire season, \( W = \) team wins, \( L = \) team loses, \( RS = \) runs scored by a team and \( RA = \) runs allowed by a team. Alternately, this formula says a team’s winning percentage \( W\% = 100*(RS)^2/[(RS)^2+(RA)^2] \). Using regression analysis, sabermetricians have shown that for a typical season the exponent will be close to 2. The research that follows was a joint effort between my student Kevin Faggella and me. We looked at the linear equation \( W\% = m*(RS-RA) + b \). Using regression analysis, we showed that for any season in Major League Baseball (MLB), \( m = \sum [(RS–RA)*W\%]/\sum (RS – RA)^2 \) and \( b = .50 \). This same formula also works for the other two major professional sports leagues, the NFL and the NBA. The strong positive correlation between each year’s \( \sum[(RS – RA)*W\%] \) and each year’s \( \sum(RS – RA)^2 \) allowed us to replace \( m \) by an approximating constant. For MLB, \( W\% = .000683*(RS-RA) + .50 \), for the NFL \( W\% = .001538*(PS-PA) + .50 \) and for the NBA, \( W\% = .000364*(PS-PA) + .50 \). PS is the season’s points scored by a team and PA is the season’s points allowed by a team. We found a strong positive correlation in each sport between the exponent in the Pythagorean Theorem and the slope \( m \). (Received June 16, 2013)