



# Algebra in the NFL



NFL analysts were looking for a way to concretely compare various NFL quarterbacks. In 1973 they came up with the passer or quarterback rating system. If you have ever watch NFL coverage on TV then you have undoubtedly seen the quarterback passer rating used to describe how good a quarterback is - or how bad they are. It is algebra at its finest used to help people describe something.

The formula is a little long, but the math is not complicated. Following a few simply steps, you will be able to calculate the quarterback rating for several quarterbacks and compare them. 0 is the lowest and 158.3 is the highest rating a quarterback can get.

(The formula for passer rating)

$$\frac{(C + Y + T + I)}{6} \times 100$$

comp = completions

att = attempts

yds = yards

int = interceptions

$$C = \frac{\text{COMP}}{\text{ATT}} \times 100 - 30$$

$$Y = \left( \frac{\text{YDS}}{\text{ATT}} - 3 \right) \times \frac{1}{4}$$

$$T = \frac{\text{TD}}{\text{ATT}} \times 20$$

$$I = 2.375 - \left( \frac{\text{INT}}{\text{ATT}} \times 25 \right)$$

Yes, that is a long formula. If you take each formula one at a time it will be easy! Solve the bottom four equations and then substitute them into the main equation and solve. Pick two quarterbacks, get their stats (COMP, ATT, YDS, INT), find their passer ratings, and compare them. Use the spaces provided on the back.



Quarterback 1: \_\_\_\_\_

Quarterback 2: \_\_\_\_\_

Passer Rating:

Passer Rating:

Compare the two quarterbacks. What did the passer rating tell you about them?

Next in class, we will discuss why this passer rating is important for comparing quarterbacks. Write down some thoughts for discussion.