Determining Passer Rating **Name _____**

Passer rating is derived from a formula designed to assign a number to the overall effectiveness of a quarterback. It is a complicated formula, but its components are relatively simple. To determine passer rating, you'll need to understand decimals, fractions, percentages, multiplication, division, addition, and variables.

Even if you don't like football, the passer rating formula is an excellent way to see algebra in action.

The formula for passing rating is:

$$\left(\frac{(a+b+c+d)}{6}\right) \times 100$$

Before we try to solve the equation, however, we need to determine the definition of the values a, b, c, and d. All of the variables above have their own equations to determine value.

a =	$\left(\frac{\text{Completions}}{\text{Attempts}} - .3\right) \times 5$
b =	$\left(\frac{\text{Yards}}{\text{Attempts}} - 3\right) \times .25$
c =	$\left(\frac{\text{Touchdowns}}{\text{Attempts}}\right) \times 20$
d =	$2.375 - \left(\frac{\text{Interceptions}}{\text{Attempts}} \times 25\right)$

Definitions:

Completions = the number of passes that the quarterback threw that were caught by players on his team

Attempts = the number of times a quarterback attempted to throw a pass. This includes all completed passes and incomplete passes.

Yards = The distance accumulated by completed passes.

Touchdowns = The number of completed passes that resulted in points scored by the quarterback's team

Interceptions = The number of passes thrown by the quarterback that were caught by the opposing team.

About Passer Rating:

The highest passer rating possible is 158.3
The lowest passer rating possible is 0.
Generally, a passer rating of 100 or above is considered very good.

Let's attempt to find Hall-of-Fame quarterback Joe Montana's passer rating in 1984. To find his passer rating, we'll have to examine his statistics.

Joe Montana 1984				
Attempts	Completions	Yards	Touchdowns	Interceptions
432	279	3,630	28	10

Let's find "a" together:

Step 1: (279/432) - 0.3 = .3458
Step 2: (.3458) x 5 = 1.792
a = 1.792

We can now plug 1.792 into our equation. Now, we have to find b, c, and d.

Find “b”

Find “c”

Find “d”

Find Passer Rating:

Was 1984 a good year for Joe Montana?