Pat Stone's Sample Test Blue Print

| College Algebra Test \#3 | Categories |  |  |  |  |  | Total Pts | Percentage |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Know | Comprehend | Apply | Analyze | Synthesize | Evaluate |  |  |
| Interpret the "complete" graph of a polynomial function (specify the intercepts(Q1), determine if the degree is even or odd (Q2), specify the sign of the leading coefficient (Q3) |  |  |  | Q1, Q 2, Q 3 |  |  | $\begin{aligned} & \text { Q1: } 4 \mathrm{pts} \\ & \text { Q2: } 1 \mathrm{pt} \\ & \text { Q3: } 1 \mathrm{pt} \end{aligned}$ | $\begin{aligned} & 6 / 50 \\ & 12 \% \end{aligned}$ |
| Given a polynomial function in factored form, produce a "complete" graph (show intercepts including local behavior at the $x$-intercepts, end behavior)(Q5) |  |  | Q5 |  |  |  | Q5: 9 pts | $\begin{gathered} 9 / 50 \\ 18 \% \end{gathered}$ |
| Given a polynomial function in expanded form with rational roots, convert the function to factored form (Q6) and produce a "complete" graph of the function (Q7) |  |  | Q6 |  | Q7 |  | $\begin{aligned} & \text { Q6: } 3 \text { pts } \\ & \text { Q7: } 9 \text { pts } \end{aligned}$ | $\begin{aligned} & 12 / 50 \\ & 24 \% \end{aligned}$ |
| Given the roots of a polynomial function with a leading coefficient of one and the multiplicity of each root, produce the equation of the function in factored form (Q8) |  |  |  |  | Q8 |  | Q8: 5 pts | $\begin{aligned} & 5 / 50 \\ & 10 \% \end{aligned}$ |
| Given a non-real complex root of a polynomial function in expanded form with additional rational roots, determine all the roots of the function (Q9) |  |  |  |  | Q9 |  | Q9: 9 pts | $\begin{aligned} & 9 / 50 \\ & 18 \% \end{aligned}$ |
| Solve an application problem involving a third degree polynomial (Q10) |  |  |  |  |  | $\begin{aligned} & \text { Q10: } 9 \\ & \text { pts } \end{aligned}$ |  | $\begin{aligned} & \hline 9 / 50 \\ & 18 \% \\ & \hline \end{aligned}$ |
| Total |  |  | 12 | 6 | 23 | 9 |  | 50 |
| Percentage |  |  | 24\% | 12\% | 46\% | 18\% |  | 100\% |

