



WSMA Math Bowl - March 29, 2014
College Bowl Round 1 Proctors' Answer Sheet

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| 1 | Solve the following equation: $\sqrt{2x + 5} = 3$. | 2 |
| 2 | 3 players from 9 football players and 5 basketball players are to be chosen. How many ways can at least 1 person be selected from each team? | 540 |
| 3 | Find the remainder when $f(x)=x^3+3x^2+3x+1$ is divided by $(x-10)$ | 1331 |
| 4 | Foris mixed solution A, which has a sugar concentration of 15%, and solution B, which has a concentration of 24%, with a respective ratio of 3:7. Find the ratio of the total amount of sugar to the total amount of the solution. | 0.213 or 21.3% |
| 5 | A snail crawls up the side of a 5 feet well. Each day, the snail climbs 1 foot, and each night, it slips down 5 inches. If he starts climbing on day 1, on which day will he escape? | 8 |
| 6 | What is the largest prime number less than 1000? | 997 |
| 7 | Triangle AED is folded along line ED so that point A' touches line BC. If $AB=4$ and $AD=5$, find the length of BA' | 2 |
| Extra | How many triangulations of a regular hexagon are there assuming all points are distinct? Triangulation is defined as a set of lines between non-adjacent vertices that divide the hexagon entirely into triangles. | 14 |