



Push-up Pete

Pete the Panther is the mascot for the Pineville Panthers football team.

Each time the Panthers make a touchdown and an extra point (7 points) or kick a field goal (3 points) during a game, Pete does the same number of push-ups as the team's score. For example, if the

team scores a touchdown and

the extra point and later in the game makes a field goal, Pete will do 7 pushups after the first score and 10 pushups ($7 + 3$) after the second score. In the last game, the Panthers scored 3 touchdowns (plus the extra point with each touchdown) and 2 field goals, in some order. What would be the greatest number of push-ups that Pete would have to do throughout an entire game? What would be the fewest number of push-ups? Explain how you found your answers.

We encourage classroom teachers to pose this problem to your students and share their creative solutions. Please include a brief analysis of the specific strategy; examples of original student work or high-quality digital images; and your name, the school name and address, and your e-mail address. E-mail submissions to **Edward S. Mooney** at mooney@ilstu.edu, or send to him at Illinois State University, Campus Box 4520, Normal, IL 61790-4520, by **March 1, 2012**. Published solutions will be credited.

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The greatest number of push-ups Pete will have to do is 93; the fewest number is 69. The order the points are scored will determine the number of push-ups Pete will have to do. The first score will be added 5 times, the second score will be added 4 times, the third score will be added 3 times, and so forth. To obtain the fewest push-ups, assume that the lower-scoring events (field goals) happen first. Similarly, to obtain the most push-ups, assume that the higher-scoring events happen first.