**The Algebra Tour de France**

Substitute a value into each set of instructions to calculate each team’s final position in the Tour.

Pick a positive integer (don’t make it too big), and see what order the teams finish.

Compare your order with other people – do they agree with your answer?

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| **BMC Racing** | **Etixx- Quick Step** | **Tinkoff-Saxo** | **Sky** | **Giant-Alpecin** | **AG2R La Mondiale** | **Movistar** | **Cofidis, Solutions Credits** | **Katusha** | **Cannondale-Garmin** |
|  |  |  |  |  |  |  |  |  |  |
| Add 3;Multiply by 2;Add 6;Halve;Subtract the number you started with. | Add 7;Multiply by 3;Subtract 6;Divide by 3;Subtract the number you started with. | Add 10;Add the number you started with;Subtract 4;Halve;Subtract the number you started with. | Multiply by 4;Add 12;Halve;Add 2;Halve;Subtract the number you started with. | Add 15;Add the number you started with;Add 5;Divide by 2;Subtract the number you started with. | Add 1;Multiply by 5;Add 10;Multiply by 2;Subtract 10;Halve;Divide by 5;Subtract the number you started with. | Multiply by 4;Add 8;Multiply by 2;Subtract 8;Divide by 4;Divide by 2;Subtract the number you started with. | Add 3;Multiply by 3;Subtract the number you started with;Subtract 1;Subtract the number you started with twice. | Add 5;Multiply by 3;Add 6;Divide by 3;Subtract the number you started with. | Add 6;Multiply by 4;Add 3;Subtract the number you started with;Divide by 3;Subtract the number you started with. |
| Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… | Pos: ……… |

Will the teams always finish in this order?

Explain and prove your answer.