

Letters are placed around the circle, starting from the first white star, in the order:

S H U T T L E C O C K A B
D F G I J M N P Q R V W X
Y Z A B D E F G H I J K L
M N O P Q R S U V W X Y Z

The white stars spell out SHUTTLECOCK.

The charts can be paired with athletes by treating each athlete name and puzzle answer as independent continuous strings. Since each chart does not use two different stars that have the same letter, we can count the number of unique letters in each athlete & puzzle answer combination and compare to the number of stars used in each chart:

DAVID BOWMAN & HELVETICA has 14 unique letters.

GUION BLUFORD & MISMATCHED has 17 unique letters.

MAJOR NELSON & PUNK ROCK has 13 unique letters.

SANDRA MAGNUS & CRYOGENICS has 13 unique letters.

Additionally, stars which are connected to only one other star in a chart can be compared to the letters in the athletes & puzzle answers that have only one unique adjacency. We'll call these endpoints:

DAVID BOWMAN & HELVETICA has 2 endpoints. The letter N appears next to only A, and the letter H appears next to only H.

GUION BLUFORD & MISMATCHED has only 1 endpoint. The letter G appears next to only U.

MAJOR NELSON & PUNK ROCK has 2 endpoints. The letter M appears next to only A, and the letter P appears next to only U.

SANDRA MAGNUS & CRYOGENICS has 1 endpoint. The letter M appears next to only A (on either side of it). This pair has only 1 endpoint.

The logic for matching chart to athlete & puzzle answer is as follows:

The first chart (on page 2 of the puzzle) has 17 stars used and has only 1 endpoint star (in the lower left). Thus it is the chart for GUION BLUFORD & MISMATCHED.

The second chart (on page 3 of the puzzle) has 13 stars used and has 2 endpoint stars: (one on the left and one to the right of the bottom). Thus it is the chart for MAJOR NELSON & PUNK ROCK.

The third chart (on page 4 of the puzzle) has 14 stars used and has 2 endpoint stars (one at the far left and one at the lower left). Thus it is the chart for DAVID BOWMAN & HELVETICA.

The fourth chart (on page 5 of the puzzle) has 13 stars used and has has one endpoint star (at the far left). Thus it is the chart for SANDRA MAGNUS & CRYOGENICS.

The logic for placing letters on each individual chart is as follows.

FIRST CHART (on page 2 of the puzzle): As determined by matching chart to athlete, the endpoint star is G, and it connects to U. The U connects to three stars other than the G, one of which has four paths, and the other two of which have two paths. In the athlete and answer, U is adjacent to I, which has four adjacencies (U,O,M,S); it is adjacent to L, which has two adjacencies (B,U); and it is adjacent to F, which has two adjacencies (U,O). So of these three stars connected to U, the one with four paths (on the right) must be I, and the other two on the left and lower-left must be L and F in some order.

The I is connected to, other than the G, one star at the top with two paths, one star at the left with four paths, and one star just clockwise to itself with three paths. In the athlete and the answer, I is adjacent to O, which has four adjacencies (I,N,F,R); it is adjacent to M, which has three adjacencies (I,S,A); and it

is adjacent to S, which has two adjacencies (I,M). This places the O at the star on the left, the M just clockwise to the I, and the S at the top.

M now has only one un-assigned star connected to it, and of its adjacencies in the athlete and answer, only the A is unplaced, so it can be put at the star on the right connected to M. Likewise, the T can be placed connected to A; the C can be placed connected to the T; the H can be placed connected to the C; the E can be placed connected to the H; the D can be placed connected to the E; and the R can be placed connected to the D.

For the star stars that can be either L or F, one connects to the O, but only F is adjacent to an O in the athlete and answer. Therefore the star on the left is the L, and the star at the lower-left is the F. The remaining two stars connect to each other, but the lower one connects to L, and the leftmost one connects to O. B has not been placed and it is adjacent to L, so it goes at the bottom. N has not been placed, and it is adjacent to O, so it goes on the left.

This chart provides **SH??T????C?** for the meta solution.

SECOND CHART (on page 3 of the puzzle): As determined by matching chart to athlete, the two endpoint stars are M and P in some order. In the athlete and answer, M is adjacent to A, which has a single adjacency (J), which has only a single adjacency (O); and P is adjacent to U, which has a single adjacency (N), which has five adjacencies (R,E,O,U,K). Therefore the endpoint star that is two steps away from a five-path star, which is the one to the right of the bottom, is P. And its first step is U, and its second step (with five adjacencies) is N. The other endpoint star is M, which connects singly to A, which connects to J, which connects to O.

The path heads up-right from the O visits three stars with only two connected paths each until it reaches the N. In the athlete and answer there is only one five-letter sequence ending with an O and an N: NELSO. Therefore, starting from the path going up-right from the O, we can place the S, then the L, then the E.

Of the unassigned stars, the one above the right has two adjacencies, the one at the far right has three, and the one towards the bottom has three (two of its extending paths both reach the O). Of the unassigned letters, C has two adjacencies (O,K), K has three adjacencies (N,R,C), and R has three adjacencies (O,N,K). Therefore the star above the right with two adjacencies is C. The star at the far right with three adjacencies, none of which are O, is K. And the the star towards the bottom with three adjacencies, one of which is O, is R.

This chart provides **??U????C??K** for the meta solution.

THIRD CHART (on page 4 of the puzzle): As determined by matching chart to athlete, the two endpoint stars are N and H in some order. In the athlete and answer, N is adjacent to A, which has five adjacencies (D,V,M,N,C); and H is adjacent to E, which has four adjacencies (H,L,V,T). Therefore, the leftmost endpoint star and its connected star on the right, which has five paths connected to it, are N and A, respectively. Likewise, the lower-left endpoint star and its connected star slightly counter-clockwise, which has four paths connected to it, are H and E, respectively.

A connects to four unassigned stars: a star at the upper right with two paths connected to it; a star at the bottom right with four paths connected to it, a star at the bottom left with three paths connected to it, and a leftmost star with two paths connected to it. In the athlete and answer, A has four unassigned adjacencies: D, which has three adjacencies (A,I,B); V, which has four adjacencies (A,I,L,E); M, which has

two adjacencies (W,A), and C, which has two adjacencies (I,A). Therefore V can be placed at the bottom right star, the D can be placed at the bottom left star.

Of those other two stars, which must be M and C, in some order, the rightmost star connects to a star with two paths connected to it, but the upper right star is connected to a star with four paths connected to it. In the athlete and answer, M's other adjacency W has two adjacencies (O,M), and C's other adjacency I has four adjacencies (V,D,T,C). Thus, the upper right star is C, and its other connected star at the lower right is I. And the leftmost star is M, and its connected star near the top is W. W has one other connected star, which is therefore O, and then O has one other connected star, which is therefore B.

The two upper white stars remain unassigned. The upper of the two connects to E and I, and the lower of the two connects to E and V. Therefore, they are, respectively, T and L.

This chart provides **??T?L?C???** for the meta solution.

FOURTH CHART (on page 5 of the puzzle): As determined by matching chart to athlete, the endpoint star is M, and it connects to A towards the right near the bottom. At the bottom right the single star with six connected paths must be the only letter in the athlete and answer with six adjacent letters: N (A,D,G,U,E,I).

The chart has two stars with exactly three connecting paths: one at the right, and one at the upper left. In the athlete and answer, S has three adjacencies (A,U,C); and C has three adjacencies (R,I,S). Only the upper left star connects to A, so it must be S, and the star at the right must be C. The remaining unassigned star connected to S, just clockwise to it, must be the adjacency not yet placed: U.

The chart has two stars with exactly four connecting paths: one towards the lower right and one near the bottom. In the athlete and answer, R has four adjacencies (D,A,C,Y), and G has four adjacencies (A,N,O,E). Of these two stars, the one towards the lower right connects to N, so it must be G, and the other must be R. The topmost right star connects to N and G, so it must therefore be E.

Then there are two stars each with two connecting paths that together connect R and G. Therefore, of the unassigned letters Y and O, Y must go in the bottom star, and the O must go in the upper right star.

This chart provides **?????E?OC?** for the meta solution.