At an automotive conference, seven different engines—T, U, V, W, X, Y and Z—are tested and ranked according to their horsepower. The ranking of the engines is consistent with the following conditions:

> X has more horsepower than U.
> Y has more horsepower than V.
> W has more horsepower than U.
> Z has more horsepower than X.
> W has more horsepower than Y.
> U has more horsepower than T.
> There are no ties.

1. Which one of the following could be a complete and accurate ranking of the engines, in order from first to seventh?

A. Z, X, U, W, T, Y, V
B. X, W, U, Y, V, Z, T
C. W, Y, V, U, Z, T, X
D. W, Z, X, Y, V, U, T
E. Z, W, X, U, T, V, Y

2. If Z ranks third, which one of the following could be true?

A. W ranks second.
B. X ranks third.
C. T ranks fourth.
D. Y ranks fifth.
E. V ranks sixth.

3. Which one of the following CANNOT be true?

A. U is ranked fifth.
B. V is ranked second.
C. X is ranked fourth.
D. W is ranked first.
E. Y is ranked sixth.

4. The ranking of the engines can be completely determined if it is known that

A. Z ranks second.
B. V ranks third.
C. W ranks third.
D. Y ranks fourth.
E. T ranks fifth.

5. If X and U rank fifth and sixth, then each of the following could be true EXCEPT

A. Z ranks first.
B. W ranks second.
C. V ranks third.
D. Y ranks fourth.
E. Z ranks fourth.

6. Which one of the following is a complete and accurate list of the engines, any one of which CANNOT be ranked third?

A. U, T
B. W, U, T
C. Z, U, T
D. X, U, T
E. X, V, Y, T

Game 41 – Engines

1. D
2. E
3. B
4. B
5. D
6. A

Question 1 is the typical first question–a testing of the rules. All four wrong answers break a rule. Question 2 is E because you can deduce that W and Y are in front of Z (nothing else can be) and likewise that X, U, and T follow Z in that order (with V anywhere in between). Question 3 is C because V must have two elements in front of it.

The fourth question is B–if V is third, W is first and Y is second. The other four elements must likewise be in order–after V. For Question 5 you can deduce that W, Y, and V are in the first four spots as a chain, as is Z, but you don't know the order. This means that four of the choices are possible, but since Y must be in front of V, Y can't be fourth. Question 6 is a matter of deducing and testing, and you can get to the answer by noting that both U and T must have three or more elements in front of them.