



## Evaluation Quiz

**Quote of the Month:** *If you don't know what's good, you can't know what's best.*

In chess there is a wide combination of learned and innate skills (memory, deductive logic, pattern recognition). The two most important “thinking” skills are analysis and evaluation because you have to use each of these skills when determining most of your moves. My definitions of these two skills:

*Analysis:* The generation of the entire “mental” move tree – determining the candidate moves for both players at all depths, and deciding which ones are reasonable and worthy of further analysis.

*Evaluation:* Determining *which side stands better, by how much and why*. Evaluation is performed on some of the nodes of the analysis tree (node = the position reached after an analyzed move), especially the nodes that are either likely incalculable or quiescent (no more relevant forcing moves such as checks, captures, or strong threats). Thus these nodes require an evaluation, which will be based on your experience and judgment.

If you analyze poorly then you are usually a bad player; that is, you can't play good moves. For a further discussion of the analysis skill, see the archived Novice Nook [Improving Analysis Skills](#).

In the archived Novice Nook, [Evaluation Criteria](#) I discussed the most important static (non-dynamic, i.e., not moving the pieces) elements for evaluation. In my opinion there are six criteria, if you include dynamic affects and time (clock):

**Static** (in descending order of importance):

- King Safety
- Material – If both kings are relatively safe this criteria becomes primary.
- Army Activity (all pieces) – this criteria includes ideas such as space, time, development, flexibility, and mobility.
- Pawn Structure – the least important of the ones listed, but important enough that if all the others are nearly equal and this is imbalanced, it can cost you the game. Thus pawn structure must be included in the “Top 4” list!

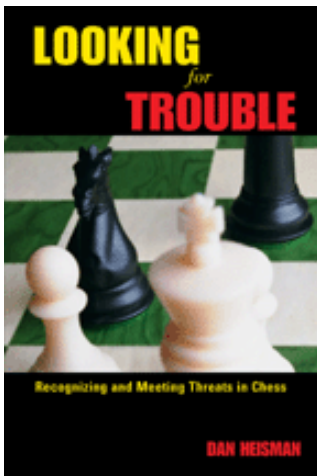
**Dynamic:**

- Whose move is it, what can be done with that move, and how does that

## COLUMNISTS

### Novice Nook

Dan Heisman



affect the four static criteria? The dynamic criteria can overwhelm the static criteria for two reasons: 1) There may be a tactic (or initiative) which changes the apparent balance, and 2) whose move it is can often be critical: many “normal” positions can be a win for whichever player has the move! The bottom line is that it is almost impossible to evaluate a position without taking into account whose move it is. At the least, one should consider what can be done with that move, if for no other reason than to conclude “not much:” the position is quiescent and appraisable with just static criteria.

### **Important but not physically on the chessboard:**

- Clock – How the game situation is affected by the complexity of the position, the time control, the current move number (especially if it is not a sudden death time control), and each player’s current time remaining.

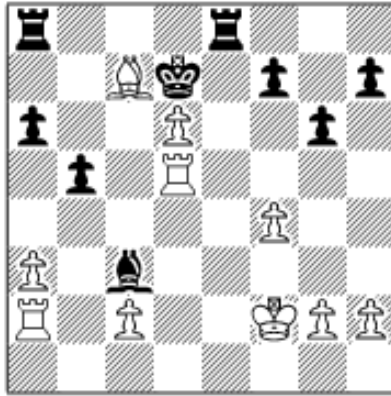
For the purpose of instruction, the time management aspect is usually disregarded, but in a game any experienced player knows it can be critical – see the archived Novice Nook [The Case for Time Management](#). This month’s Novice Nook will ignore criteria #6 – the other five are difficult enough!

Eight positions are presented below to test your evaluation skill. Assume you are visualizing each one during your analysis (looking ahead) and have to decide how good the given position would be if you were to reach it. In other words, you usually don’t have time to perform detailed analysis – just as much as necessary to get a feel for the position. A sharp position may require more analysis since the evaluation will depend on the dynamics. This is the same skill you use on each move when you are deciding which line to play! After all, if you have a good thought process, *you are trying to reach the position which you feel can be achieved that is the best for you (assuming your opponent makes the best moves)* and, in doing so, you should be evaluating many possible positions you might reach.

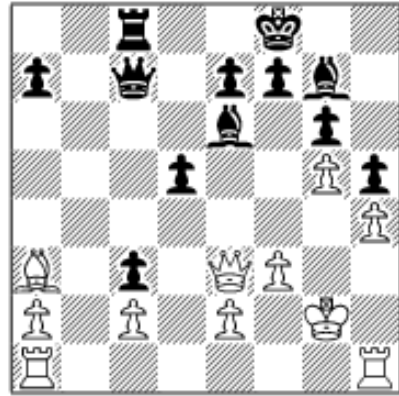
For each position note which side is better, why, and by how much: *equal*, *unclear*, White/Black is *slightly better*, White/Black is *distinctly better*, White/Black is winning but barely = *marginally winning*, White/Black is *winning easily*, etc. There will be no scoring for this quiz because there is a small amount of subjectivity involved, and if you guess incorrectly the amount of error would be difficult to quantify – but of course the closer you get to the answers, the better. If you are consistently missing the point, then hopefully you will learn from the experience.

Good luck! The “answers” appear below.

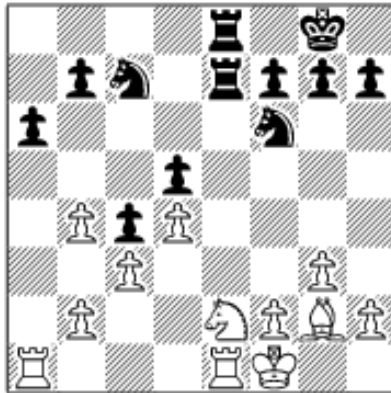
### Position #1: Black to play



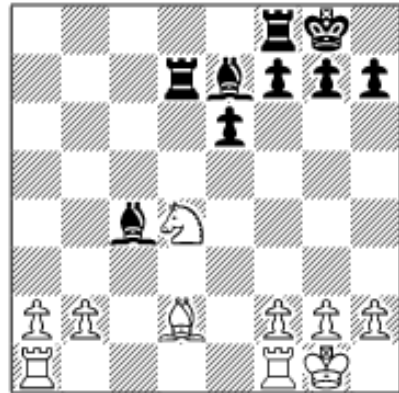
### Position #2: White to play



### Position #3: Black to play



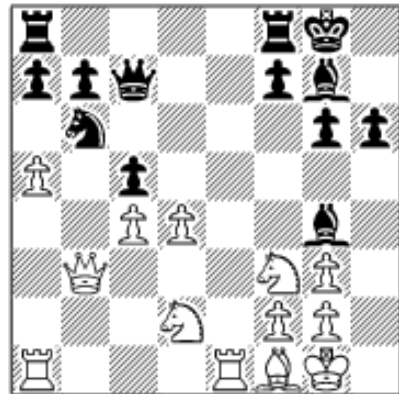
### Position #4: White to play



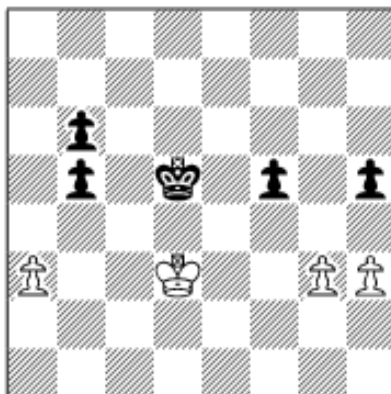
### Position #5: White to play



### Position #6: Black to play



### Position #7: White to play



### Position #8: White to play



The first seven positions appeared in my games; the eighth is a possible opening sequence. My answers include my opinion of the evaluation as well as computer analysis.

### Answers:

#### Position #1

White is up a pawn and has a well-protected passed pawn. But this position is all about piece activity. In particular, a piece that can do nothing is almost worthless. And here, White's rook on a2 is such a piece. How can it get back in the game? It is very difficult to find a line that forces Black to let it back in. Therefore, if Black simply plays to keep that rook out of the game, he will be essentially a rook ahead with an easy win! Of course, it is not trivially easy, but it is likely that with this plan Black will come out a winner, as I did. Fritz thinks the only try is **1...Re4 2.Kf3 Rae8 3.Bb6!** but here Black can play **3...Rc4** Cementing the bishop on the c3-square. **4.Rd3 Re1** with a nice bind. Note that if White ever tries a4, Black keeps the door locked with ...b4.

Summary: *Black is distinctly better* because of the trapped rook on a2. In practice it is almost impossible for the White player to get a draw if Black implements the plan of keeping the rook trapped, so an answer of marginally winning for Black is also acceptable!

#### Position #2

This position can easily be misevaluated if you think that a rook is worth two pawns more than a bishop, plus you don't value the bishop pair. Here Black has a pawn and the bishop pair for the exchange. *The exchange* is when one side has a rook for a bishop *or* knight. The general rule is that the exchange is worth somewhat less than two pawns, and that a pawn and the bishop pair (worth about half a pawn on the average) is almost worth the exchange. Here Black not only has a pawn and the bishop pair, but his center is stronger, his king safer, and his pieces more active. Fritz rates this as marginally winning for Black (reminder: this means the side is winning, but not easily; not to be confused with the much less good "slightly better") and in practice it is extremely difficult for White to generate any play. The fact that it is White's move is not that important since not only does White not have any threats, but he doesn't even have a great use for this tempo. Fritz says White's best move may be **1.Qd3**, which shows how bereft White's position is.

Summary: *Marginally winning for Black* since material is almost even and all the other factors are in his favor.

#### Position #3

Things look pretty quiet here, so at first it seems that the positional features should be the key. White's doubled b-pawns can actually be an asset since he has more pawns toward the center and a semi-open a-file. White's doubled rooks on the e-file look like a definite plus. It looks as though Black's pawn on d5 is a fixed target of the white bishop and possibly a knight if it gets to f4. White might be able to plant his knight on e4 since for White to remove it by f3 is so weakening.

However, all these positional features are somewhat illusory! Black's move is

the key, and if he plays **1...Ng4!**, threatening the removal of the guard tactic **2...Nxb2+ 3.Kg1 Rxe2** then White has no good defense! For example, **1...Ng4! 2.h3 Nh2+ 3.Kg1 Rxe2 4.Rxe2 Rxe2** and Black will win at least a pawn with a powerful position, as White eventually has to recapture the piece, e.g. **5.Kxh2 Rxf2**. No better is **1...Ng4 2.f3 Ne3+** (clearer than **2...Nh2+**) **3.Kf2 Nc2** wins the exchange. Finally **1...Ng4 2.Kg1** just loses a piece to **2...Rxe2**.

Summary: The position is not as quiet as it looks, as *Black* has the deadly **1...Ng4!** with a *winning* endgame (at least marginally but, for a strong player, fairly easily).

#### Position #4

This is certainly the most “tactical-looking” of the six positions. Black is threatening to capture the rook on f1 and the knight on d4. However, White is ahead two connected passed pawns for just the bishop pair. In this position many weak players automatically want to move the rook on f1 because they “don’t want to lose a rook” but this is a most basic – and horrendous – counting mistake. Black is threatening to win a full piece on d4 – the knight is unguarded – but only win the rook *for a bishop* on f1 (the exchange), so the threat on d4 is *much* more serious since the exchange is only worth about half a knight!

There seems no way to save both. The interesting try **1.Rfc1 Rxd4 2.Be3** trying to remove the rook from guarding the bishop on c4, fails to **2...Re4** when **3.f3?** trying to force the rook off the fourth rank, allows **3...Rxe3** and Black wins. So White, a master, settled for the easy **1.Bc3** when after **1...Bxf1 2.Kxf1** (the king belongs in the middle in the endgame) White won fairly easily with two connected passed pawns for just the exchange. Many years later computer analysis showed that White could have won even more easily with the tactical shot **1.Nc6!**, but I am sure the player who won easily with White in this game would not feel too bad if he learned about this improvement!

Summary: *White* can just give back the exchange and be *winning* (not easily, but at least *marginally*) with the move played in the game **1.Bc3**. He does not even have to find the cute **1.Nc6!** when his win is even easier. However, moving the rook on f1 on the first move, instead of saving the knight in some way, would be a terrible mistake!

#### Position #5

White has sacrificed a bishop for three kingside pawns, exposing the black king. While the black monarch is not in any immediate danger, there is a lack of long-term pawn protection that makes it vulnerable to any White plan that keeps the queens on the board. Black does have a slight edge in development and the bishop pair to console him. It is White’s move, and he has to decide if he needs to protect his e-pawn and if so, how. He also has to decide where to develop his pieces and where his king should reside. There is a long, sharp fight ahead. I gave this position to Fritz, and it thought that the only move which gave White any advantage was **1.Bg5**, and even then the advantage was not so great. Normally when you “win” a bishop for three pawns early in the game that is a slight material advantage (in the endgame not so!), but here any



small material advantage for Black (including the bishop pair, which can be eliminated right away if need be) is offset by White's nice kingside pawn wedge and long-term safer king.

Summary: This is an excellent position to consider *unclear*. The game is unbalanced and thus not likely to be a draw. Let the player who plays best win the game!

### Position #6

Although it is Black's move, nothing much can be done with it as Black must meet the threat of 2.axb6. This is an excellent example of how the advantage of having the move can be offset by a threat. Of course, the threat is easily met, but then what? Again the key to a close material situation is the bishop pair (an idea drilled into me by my coach, IM Donald Byrne), and so Black is slightly ahead in that area. Also, White has three pawn islands, including an isolated a-pawn and a pressured d-pawn. Ironically, his doubled pawns on the g-file are not a factor. Instead, it is usually an advantage to capture with your rook's pawns to make them knight pawns. IM Larry Kaufman writes that, generally, rook pawns are only worth about 85% of an average pawn because they can only attack one square instead of two. So the doubling of the g-pawns is not a detriment and the semi-open h-file cannot be exploited by White because it is difficult to put a rook on h1, but Black has difficulty making use of the h-file as well. The net result is that the doubled g-pawns and semi-open h-file are neutral! So what this position really boils down to is Black's bishop pair, the Black pressure against the pinned d4-pawn, and White's inability to easily protect it (all the moves that do are slightly awkward).

Summary: *Black is distinctly better* because of his bishop pair and pressure on d4. After **1...Nd7** (better than the 1...Nc8 I played since after 1...Nd7 2.Re7 is easily chased out), Black can look forward to pressure on d4 and possibly even a great knight post on c5 after a capture on d4, which would also isolate both White's remaining queenside pawns.

### Position #7

In king and pawn endgames there is rarely any grey area in the evaluation, that is, no "White stands slightly better" or "Black is distinctly better." Although in such positions an experienced player's static evaluation is often correct, it is usually possible to calculate all the lines exactly to the finish (well, sometimes with computer help) so that the position can be absolutely evaluated as either drawn or decisive. Therefore in Position #7, while it is possible to apply some general criteria such as "White has only two pawn islands while Black has three" or "Black is up one pawn but it is a doubled isolated pawn," the only thing that really matters is the dynamic conclusion. In this case the extra doubled isolated pawn is crucial; enabling Black to win a decisive tempo. So, despite having the move (not always an advantage in a king and pawn endgame, as zugzwang is a common and powerful weapon), White is dead lost: **1.h4** White's king does not wish to give way. **1...b4!** **2.axb4 b5** Now the king must give way. If it were Black's turn to move it would be a draw! **3.Ke3 Kc4** and Black will queen well before White in the lopsided race. Small things can make a big difference in king and pawn

endgames, so when you get into one – or are calculating whether you should trade down into one – be super careful!

Summary: King and pawn endgames are usually evaluated as won, lost, or drawn. Here Black's great king position and ability to sacrifice his extra pawn for a tempo gives *Black a winning advantage*.

### Position #8

This is an excellent example of a common position that weaker players misevaluate by overrating the pawn structure. They reason that White has doubled isolated pawns on a semi-open file, an isolated a-pawn, and more pawn islands, so Black must be better. Nothing could be further from the truth! Black has weakened his dark squares and traded off his dark-square bishop and he is not yet castled. After the natural **1.Ba3**, grabbing the key a3-f8 diagonal, White has a bind on the dark squares and Black will be lucky to survive the middlegame. Play this kind of position a few times as Black against a decent player and you will see! Also, White has the advantage of the two bishops, worth a significant half pawn. Finally, thanks to his monster dark-square bishop, White's army is much more active. All of this is worth his wrecked pawn structure and more – remember that pawn structure weaknesses may be enough to lose the game *if everything else is roughly equal*, but the other factors are usually more important. One possible continuation would be 1.Ba3 Nf6 2.Nxc6 dxc6 3.Bd6 Qd8 4.Bf3 Nd5 5.Bc5! and White retains his grip.

Summary: *White has a distinct, but not winning, advantage*. It will take some good play on his part to keep it, but isn't that usually true?

I hope you enjoyed the quiz and found it instructive. Honing your evaluation skills is second only to working on your analysis skills. Work to improve both skills and watch your playing strength reflect your newfound capabilities!

**Reader Question:** *I was wondering what you thought of CT ART 3.0 as far as honing tactics go. I have that software. Should I be doing the level 10 (easiest) problems over and over then progress to level 20 problems and do those over and over and so on?*

**Answer:** The CT-ART 3.0 software Level 10 is OK for basic tactics repetition drilling, but it has too high a percentage of mate problems to be an ideal problem set. A student of mine felt that CT-ART also features an abnormally high number of queen sacrifices, so he was always looking for a queen sacrifice – certainly not a normal situation! I prefer about an 80-20 mix in favor of material winning problems since these occur so much more frequently in actual play. And no, the repetition of problem sets is not as helpful at more difficult levels.

Many hard problems are *not* permutations of multiple easier ones, but some also are (see the archived Novice Nook [The Big Five](#)). So you get *much* less benefit from repeating harder problems than you do from repeating the easiest ones. The most difficult set for which I suggest repetition is Albur's *Chess Training Pocket Book*. But this should not be attempted until you do a large set of easy problems over and over and can achieve 85%+ correct within 10-

15 seconds.

The best basic set currently in print is Bain's *Chess Tactics for Students*, but any set is not going to be perfect. My next book on tactics has another very good set and augments the problems with explanatory text, the counting motif, and many basic examples. In between Bain and Albur in difficulty would be Jeff Coakley's fine *Winning Chess Exercises for Kids* with 900 good problems. Coakley's more basic and also excellent *Winning Chess Strategy for Kids* features Bain-level exercises of all types, but is more than just a problem book.

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Dan welcomes readers' questions; he is a full-time instructor on the ICC as Phillytutor.

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