

E PLURIBUS HUGO

“Out of the Many, a Hugo”

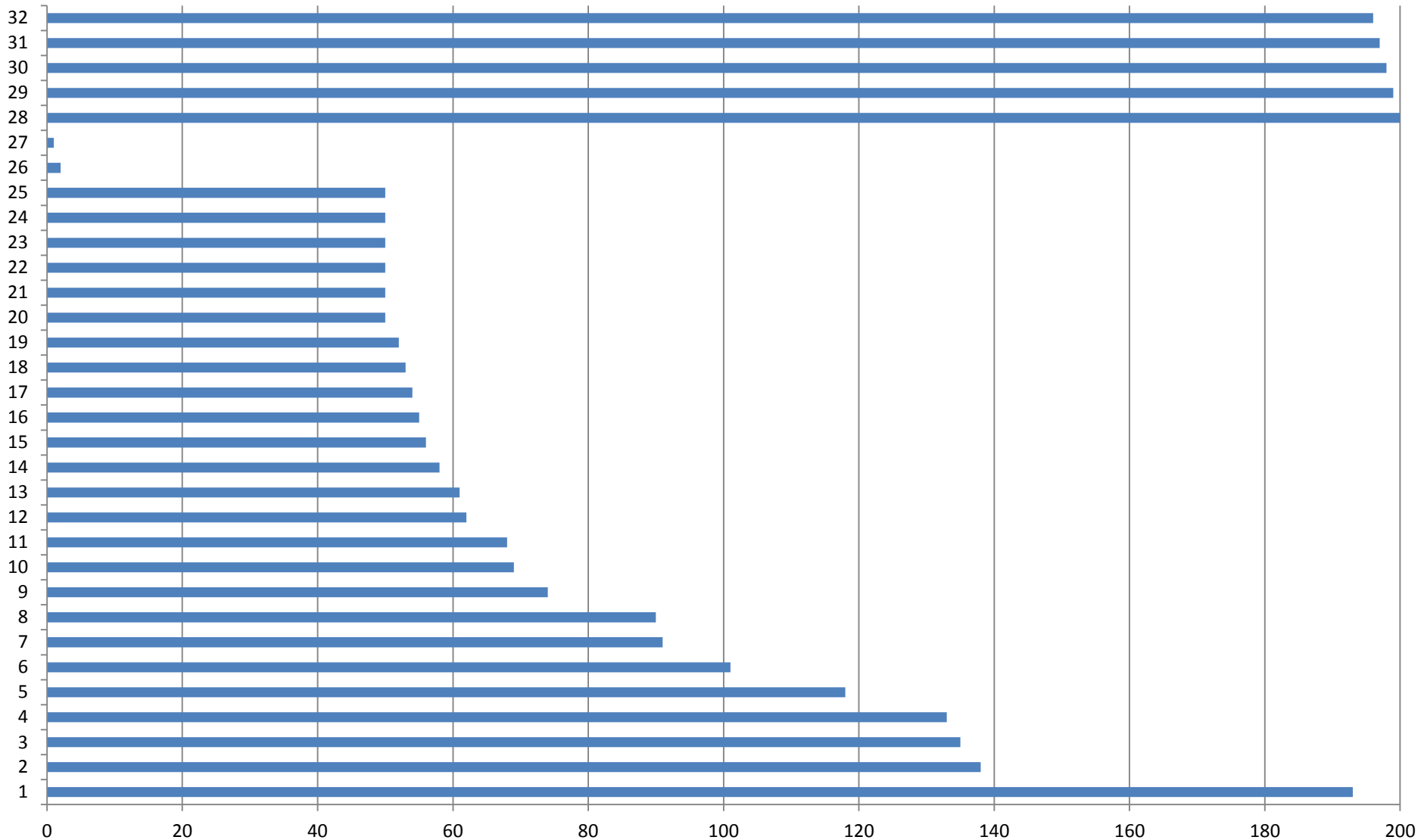
Summary of EPH

- Each category is run as a separate election (just as is done currently)
- There are three phases to EPH:
 - **Calculation Phase:** Each nomination ballot gets one point divided equally among the nominees listed; the total points from all ballots are added together for each nominee.
 - **Selection Phase:** The nominees with the lowest point totals are selected as candidates for elimination
 - **Elimination Phase:** The selected nominee with the fewest number of nominations is eliminated
- That's it! All the rest is details and handling edge cases.

2013 Best Novel Data

- We do not have the actual 2013 Hugo ballots, so this dataset was computer-generated to match the statistical distribution of the actual Hugo data
- 1313 nomination ballots total
- 200 slate ballots added manually
- #1-27 are non-slate nominees in order of number of nominations received
- #28-32 are slate nominees in order of number of nominations received
- **Without the slate, EPH gives results identical to the current system: 1,2,3,4,5 is the final ballot.**

2013 Best Novel Num. of Nominations



Under the current system, the slate sweeps the final ballot even though it only has 200 nomination ballots.

2013 Best Novel : Final Ballot (Current System)

- #28
- #29
- #30
- #31
- #32

Voter #44

- Let's look at a typical nomination ballot...
- Nominations by Voter #44
 - #4
 - #1
 - #23
 - #19
 - #22

Calculation Phase: Calculate Points

- Each nomination ballot has one point
- The point is divided equally among the surviving nominees on that ballot
 - 5 nominees = each nominee gets $1/5$ point
 - 4 nominees = each nominee gets $1/4$ point
 - 3 nominees = each nominee gets $1/3$ point
 - 2 nominees = each nominee gets $1/2$ point
 - 1 nominee = nominee gets 1 point
- **IMPORTANT: Points don't cause elimination!**
- **You don't help your candidate (by enough to matter) by only listing one work!**

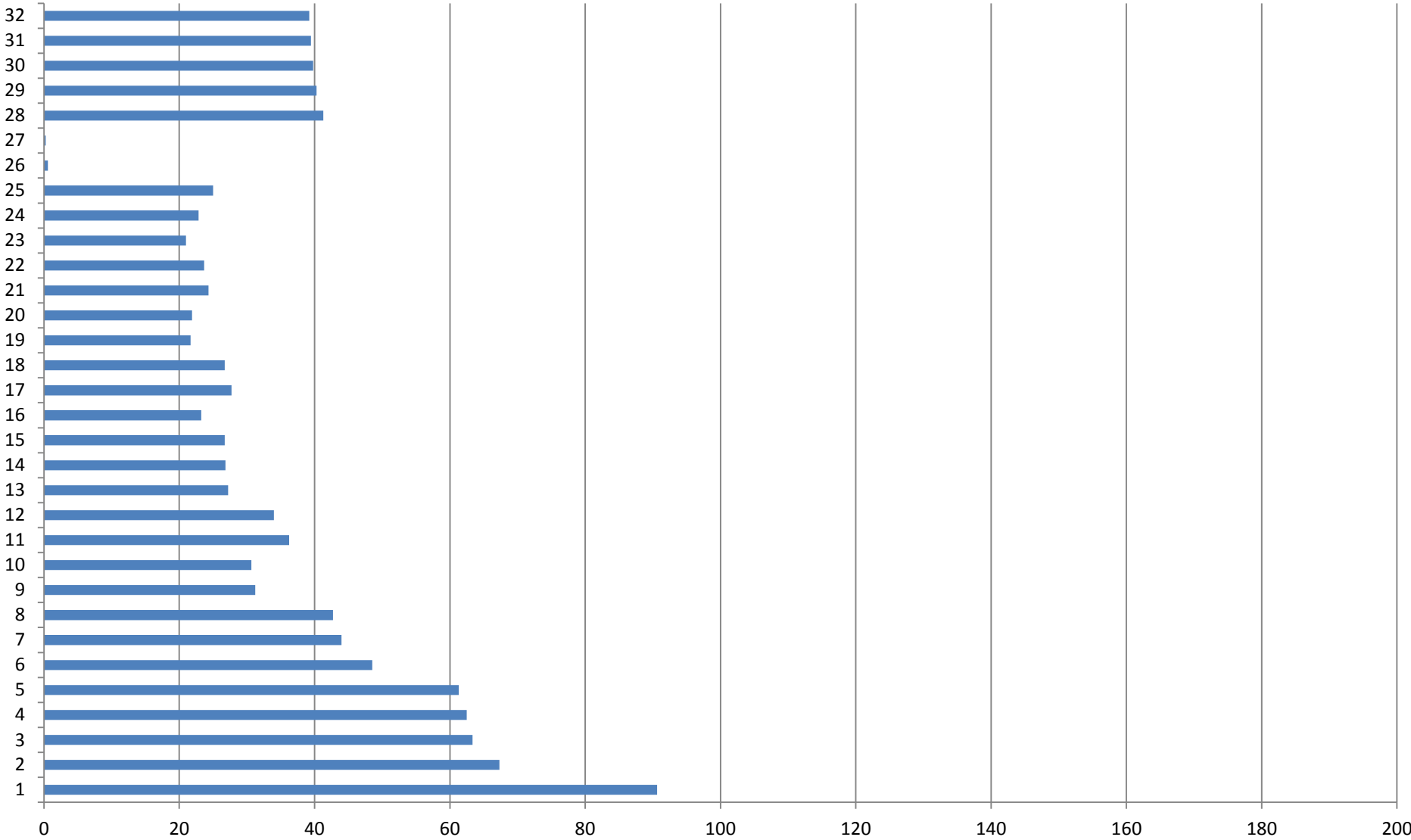
Voter #44

- There were five nominees on Voter #44's nomination ballot this round.
- Each nominee listed on Voter #44 nomination ballot gets $1/5$ point from Voter #44.

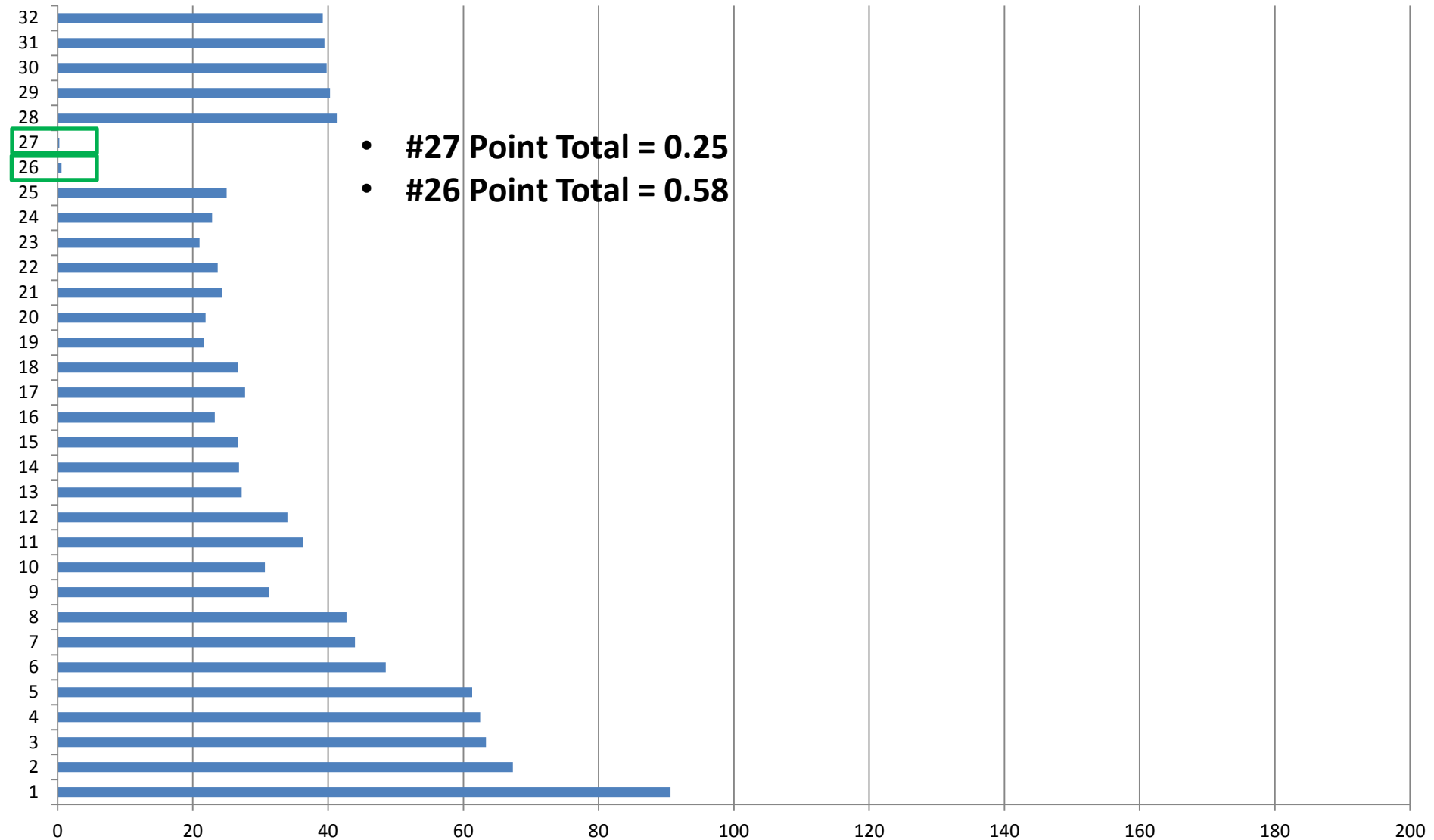
Calculation Phase: Calculate Points

- For each nominee, add up all the points given to it from all the nomination ballots.
- Note that number of nominations never change!
- You can't do anything to increase your favorite's nominations (other than talking it up to your friends!)
- **Reminder: Points don't cause elimination!**
- **Number of Nominations cause elimination!**

2013 Best Novel Point Totals – Round 1

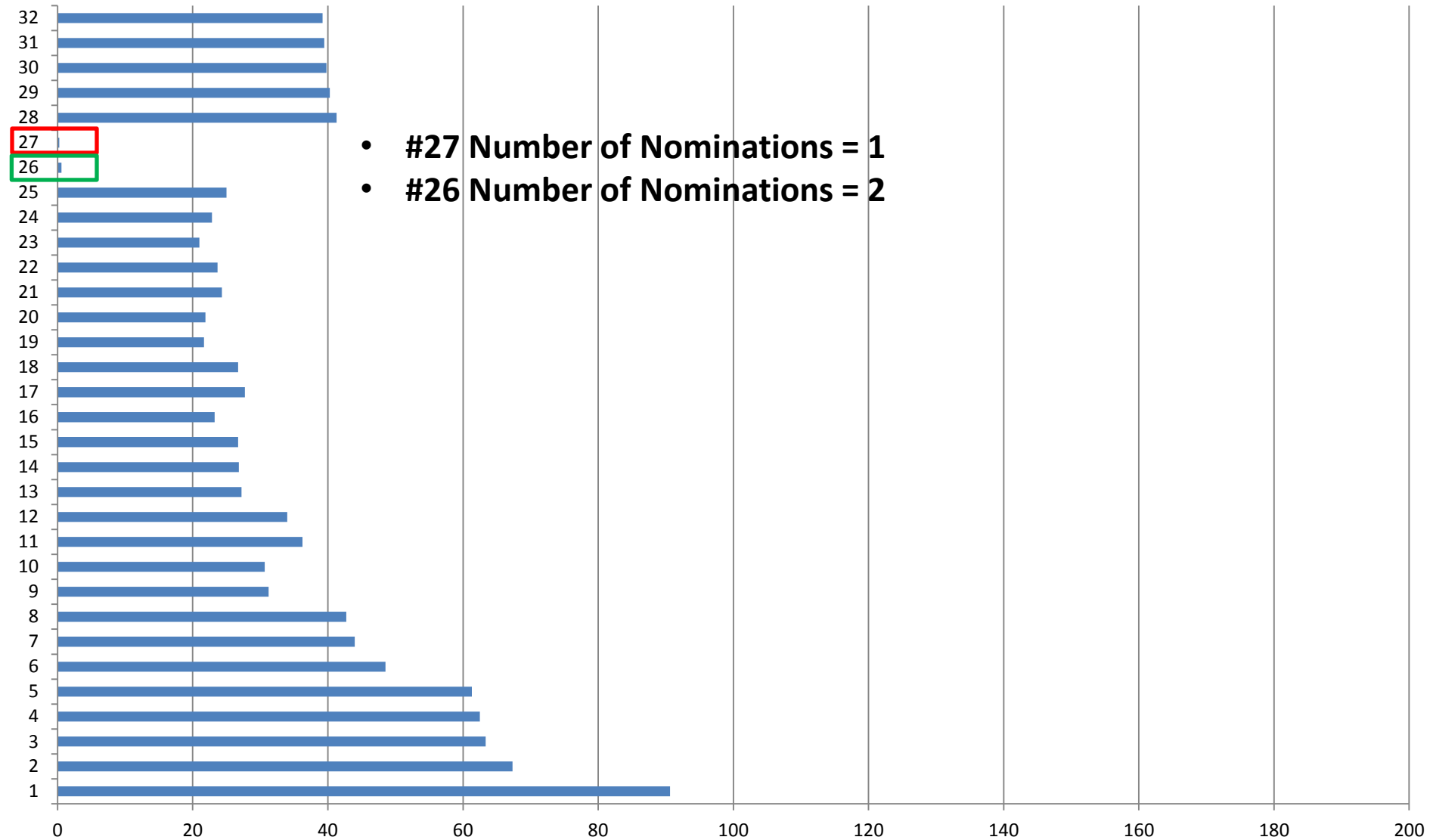


Selection Phase: Lowest Point Totals



**#26 and #27 have the lowest point totals,
so are eligible for elimination!**

Elimination Phase: Fewest Nominations

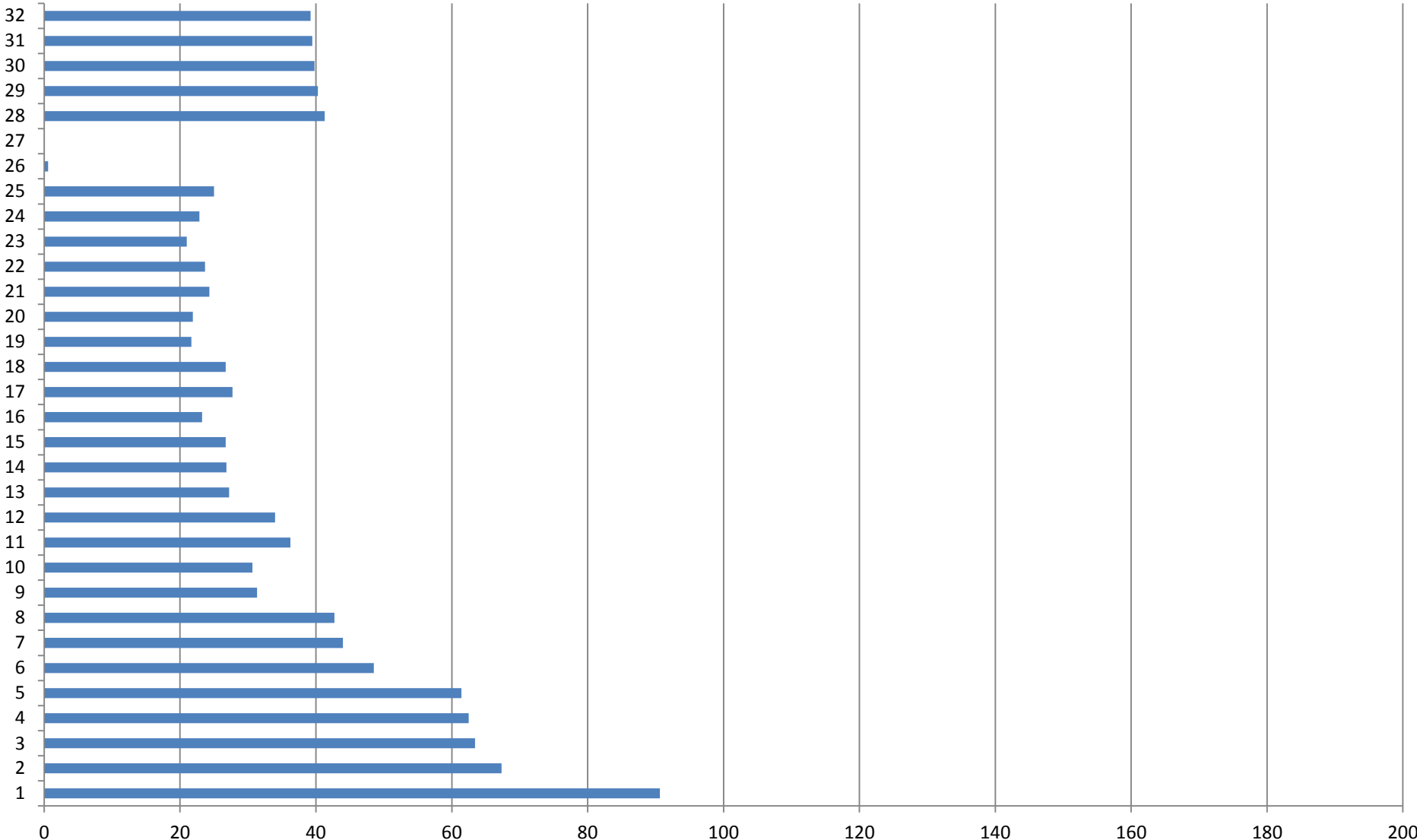


#27 has fewer nominations, so is eliminated!

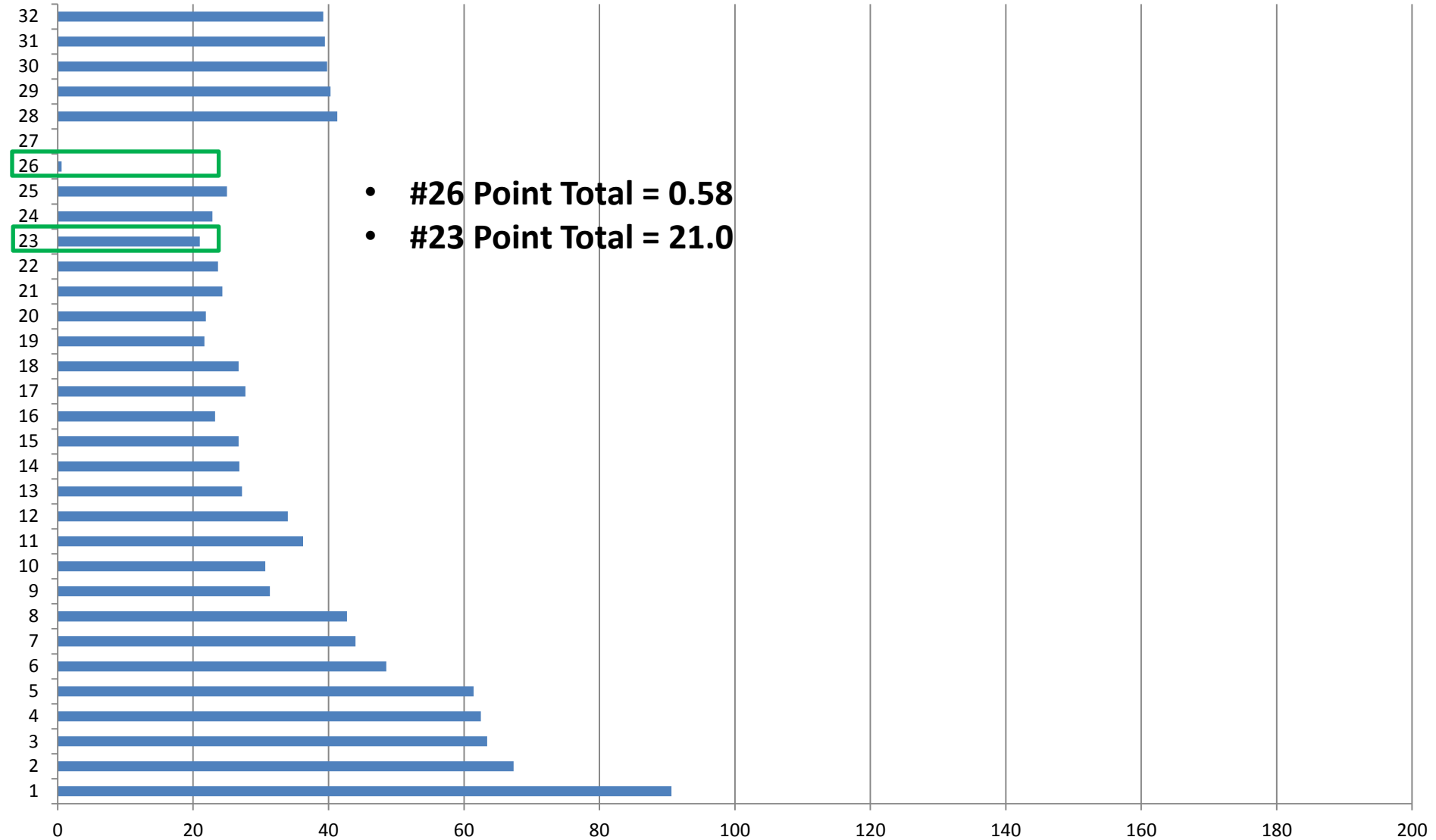
Voter #44

- None of Voter #44's nominees have been eliminated yet.
- Each nominee listed on Voter #44 nomination ballot still gets $1/5$ point from Voter #44.

2013 Best Novel Point Totals – Round 2

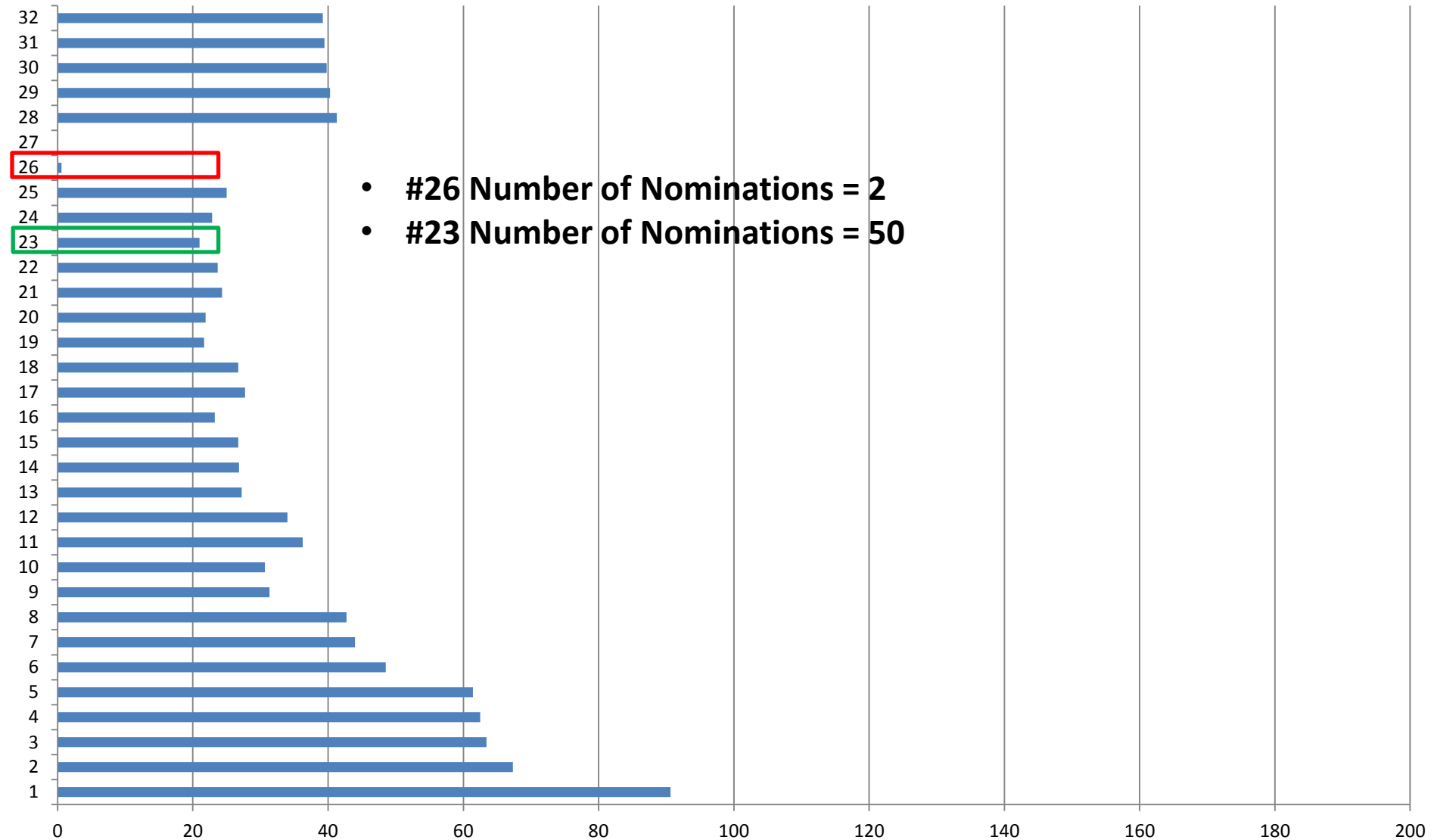


Selection Phase: Lowest Point Totals



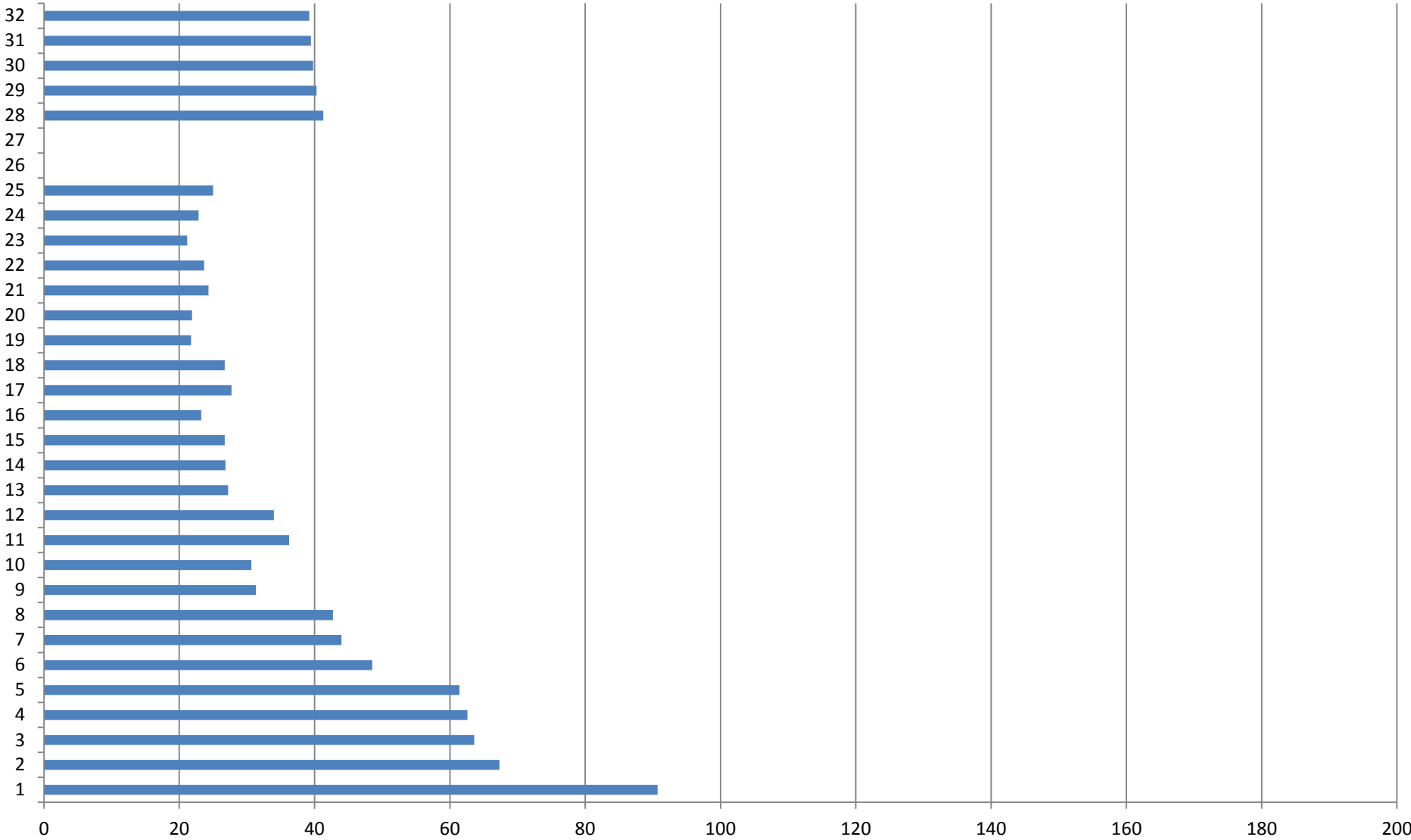
**#23 and #26 have the lowest point totals,
so are eligible for elimination**

Elimination Phase: Fewest Nominations

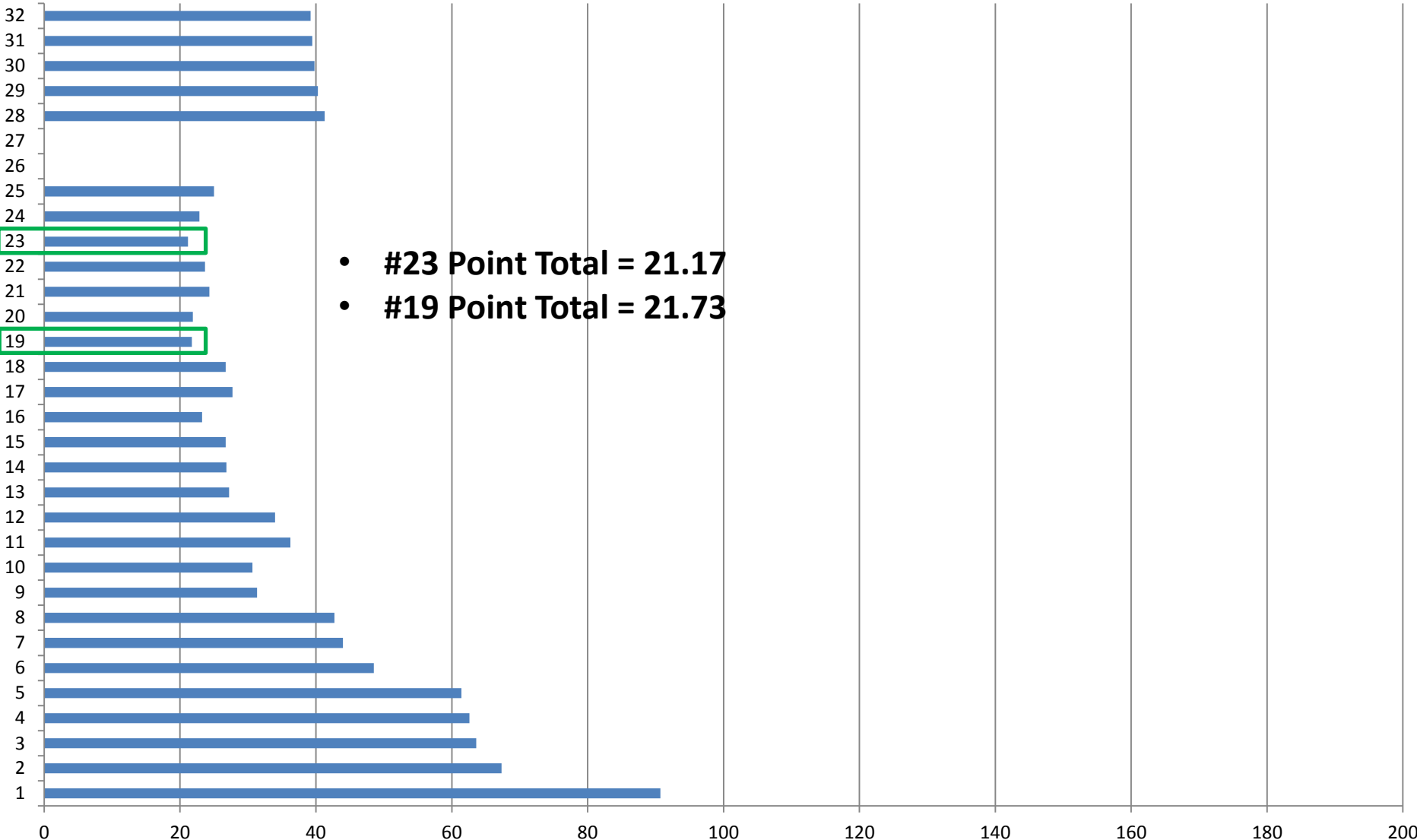


#26 has fewer nominations, so is eliminated

2013 Best Novel Point Totals – Round 3

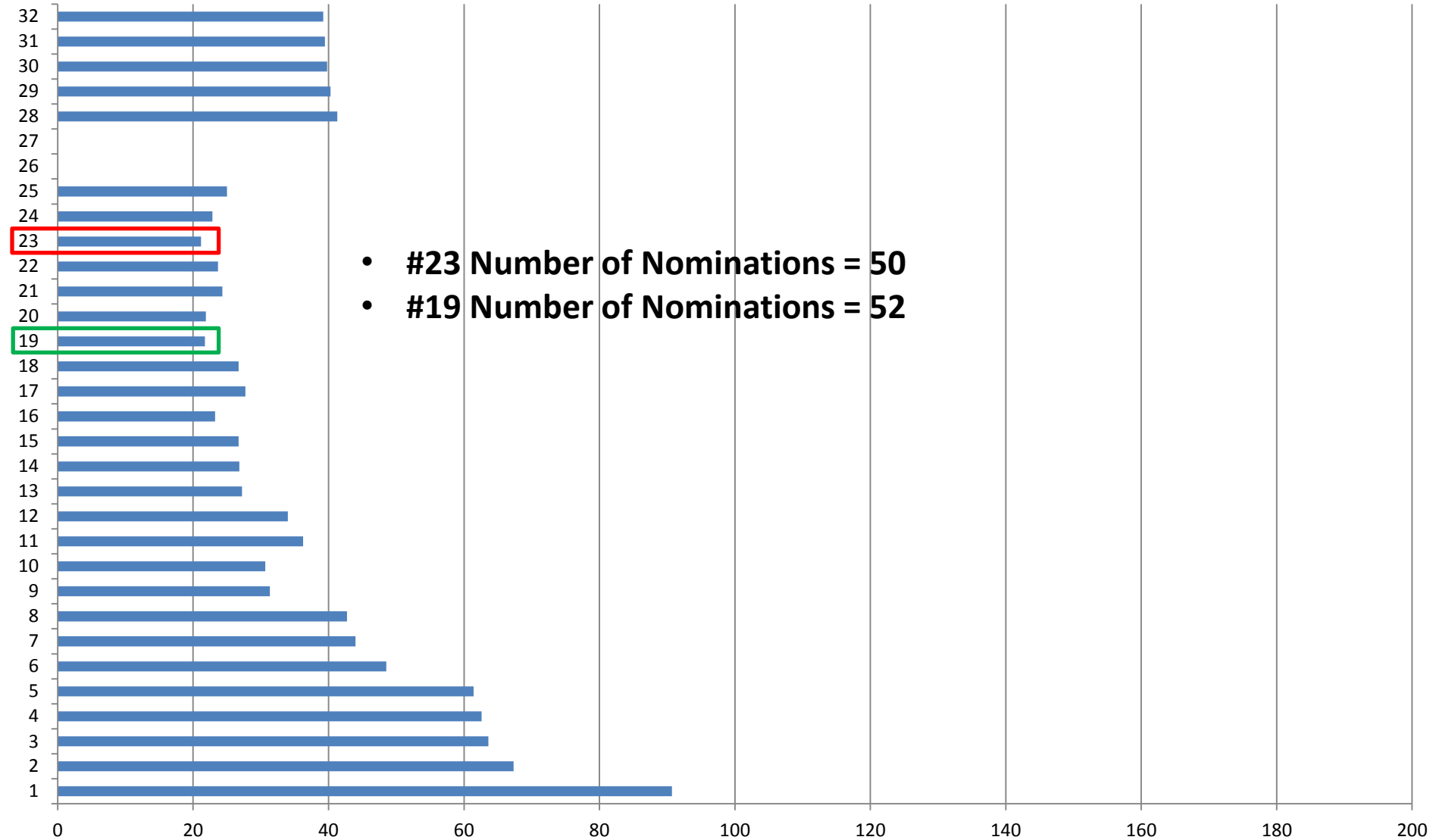


Selection Phase: Lowest Point Totals



**#19 and #23 have the lowest point totals,
so are eligible for elimination**

Elimination Phase: Fewest Nominations



#23 has fewer nominations, so is eliminated

Voter #44

- #23 was on Voter #44's nomination ballot.
- It is now removed from all nomination ballots (including Voter #44's) as though it had never been nominated.
- There are now only four nominees on Voter #44's nomination ballot.
- Each nominee listed on Voter #44 nomination ballot now gets $1/4$ point from Voter #44
- **As a result, all four nominees mentioned on Voter #44's ballot have more points than they did last round!**

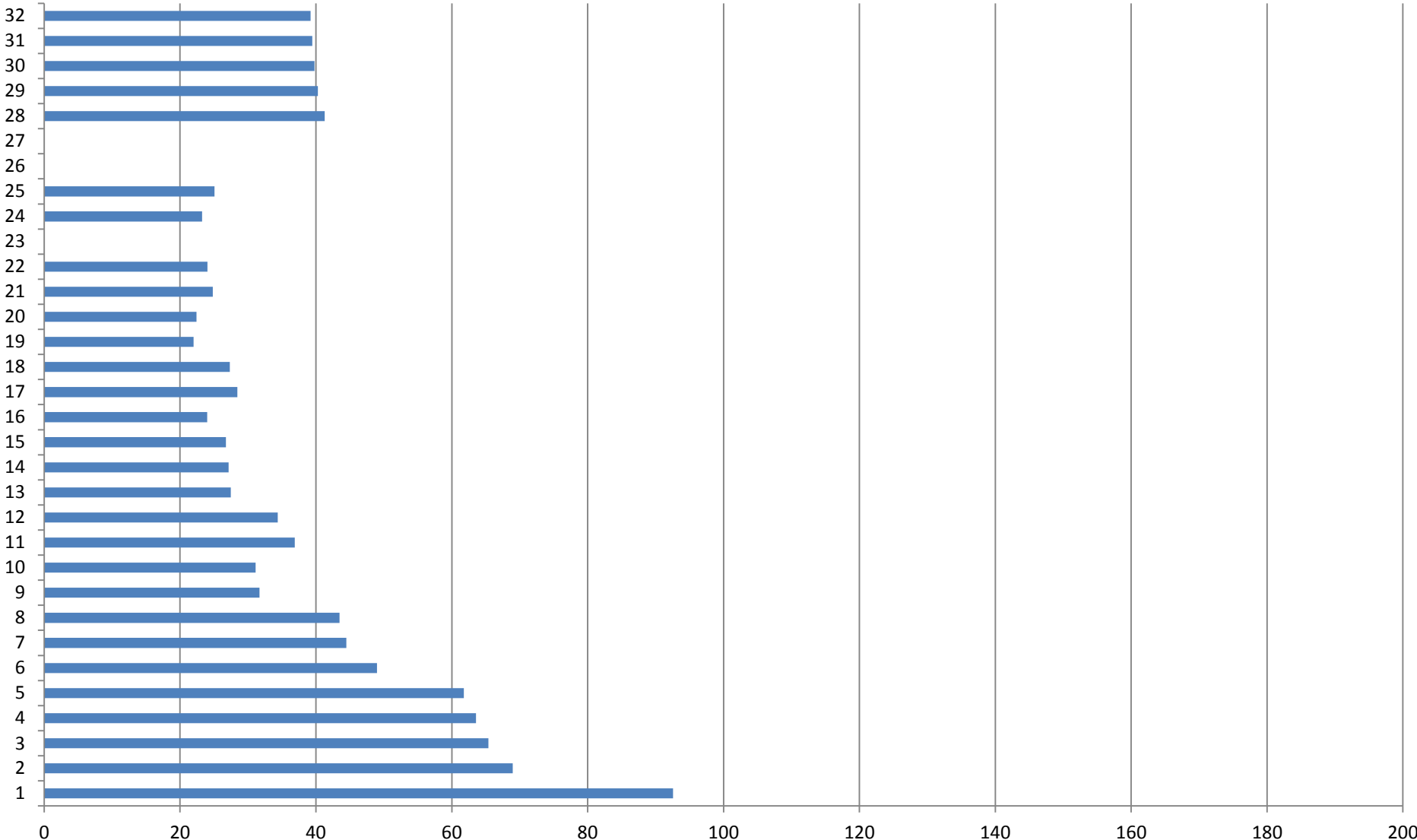
Voter #44

- Voter #44's current nomination ballot looks like this:
 - #4
 - #1
 - #19
 - #22

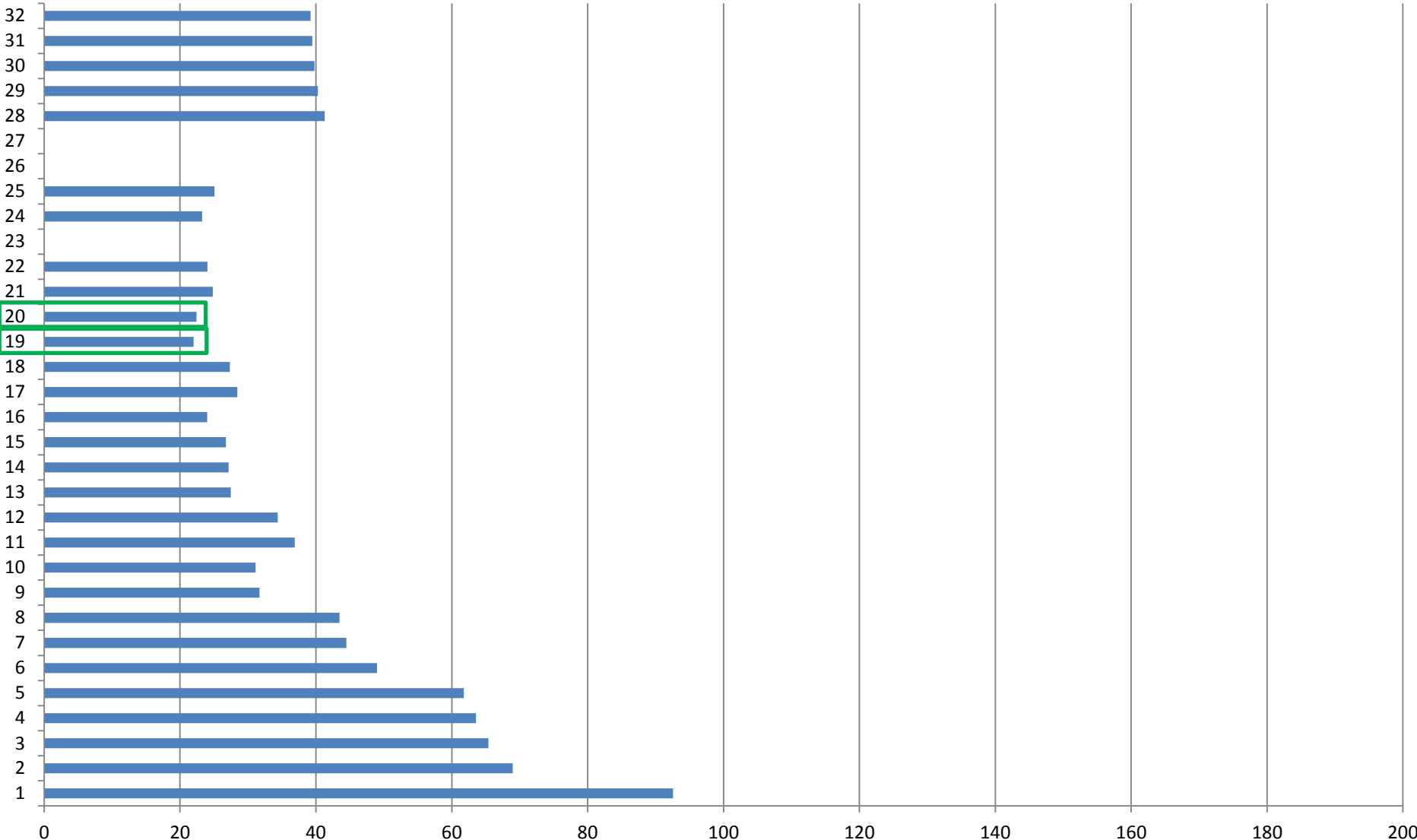
Points vs. Nominations

- So far, the nominee with the lowest point total also had the fewest number of nominations.
- You may think that the nominee with the lowest point total will always be eliminated.
- **Not so!**
- **Let's jump ahead to Round #5...**

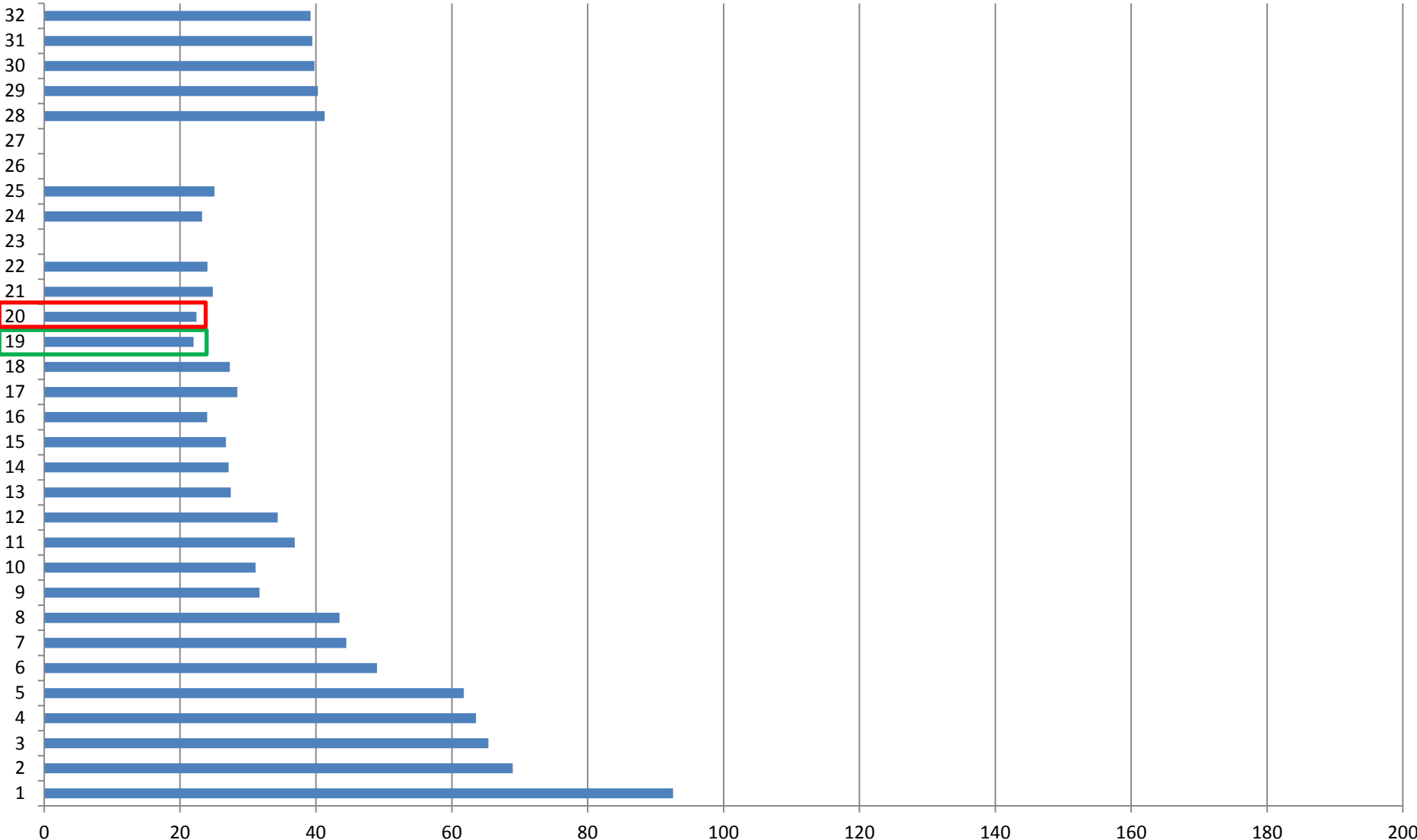
2013 Best Novel Point Totals – Round 4



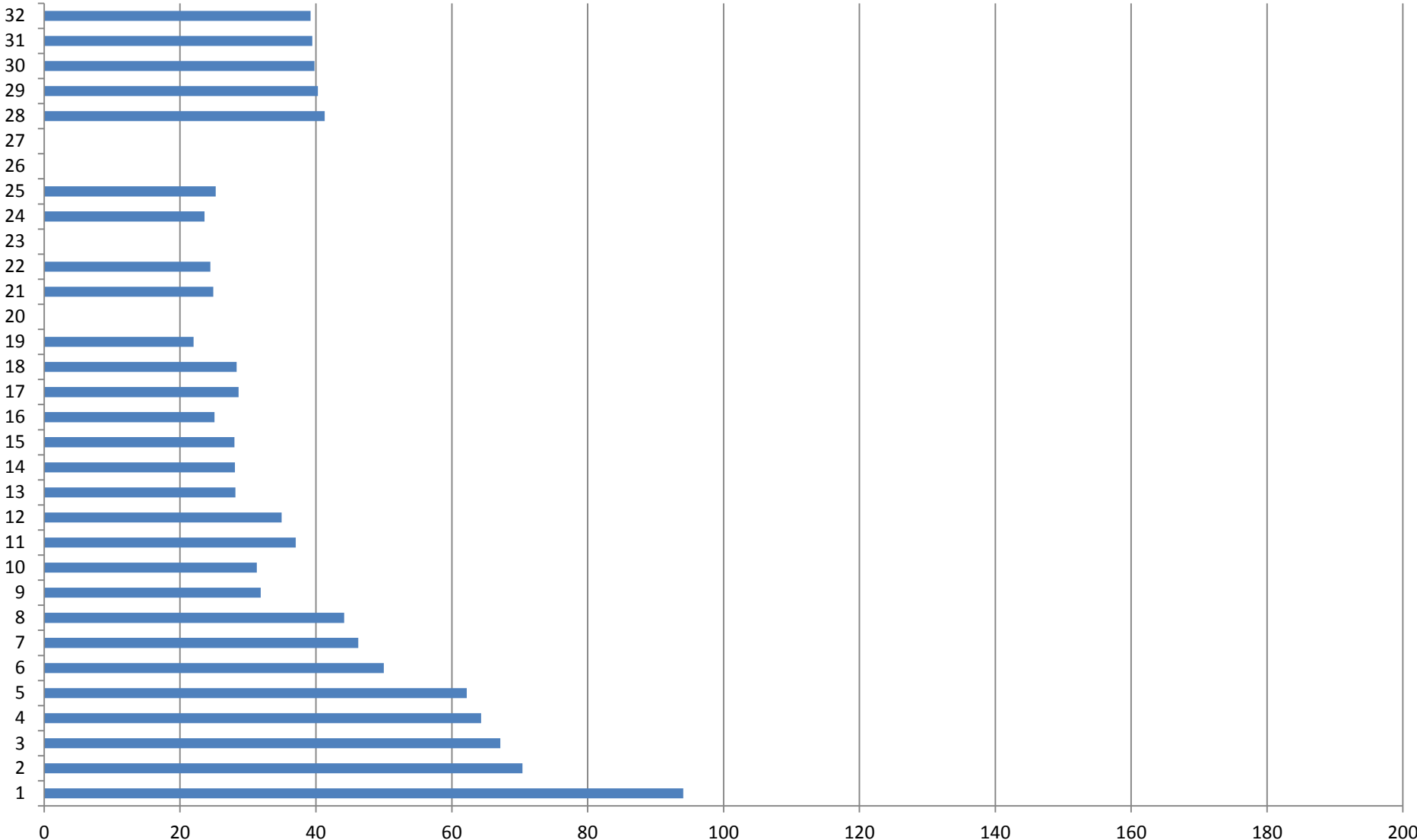
2013 Best Novel Point Totals – Round 4



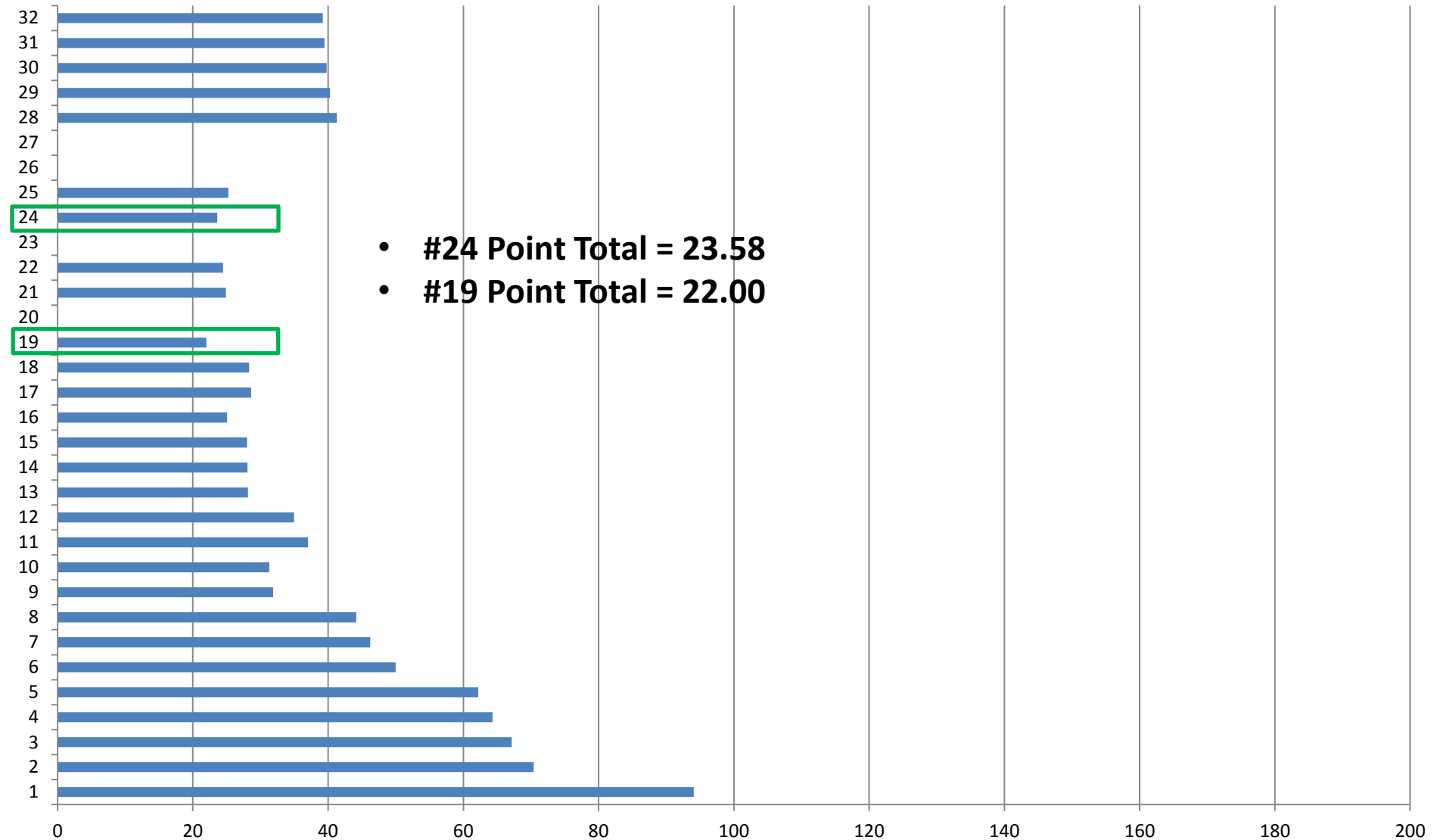
2013 Best Novel Point Totals – Round 4



2013 Best Novel Point Totals – Round 5

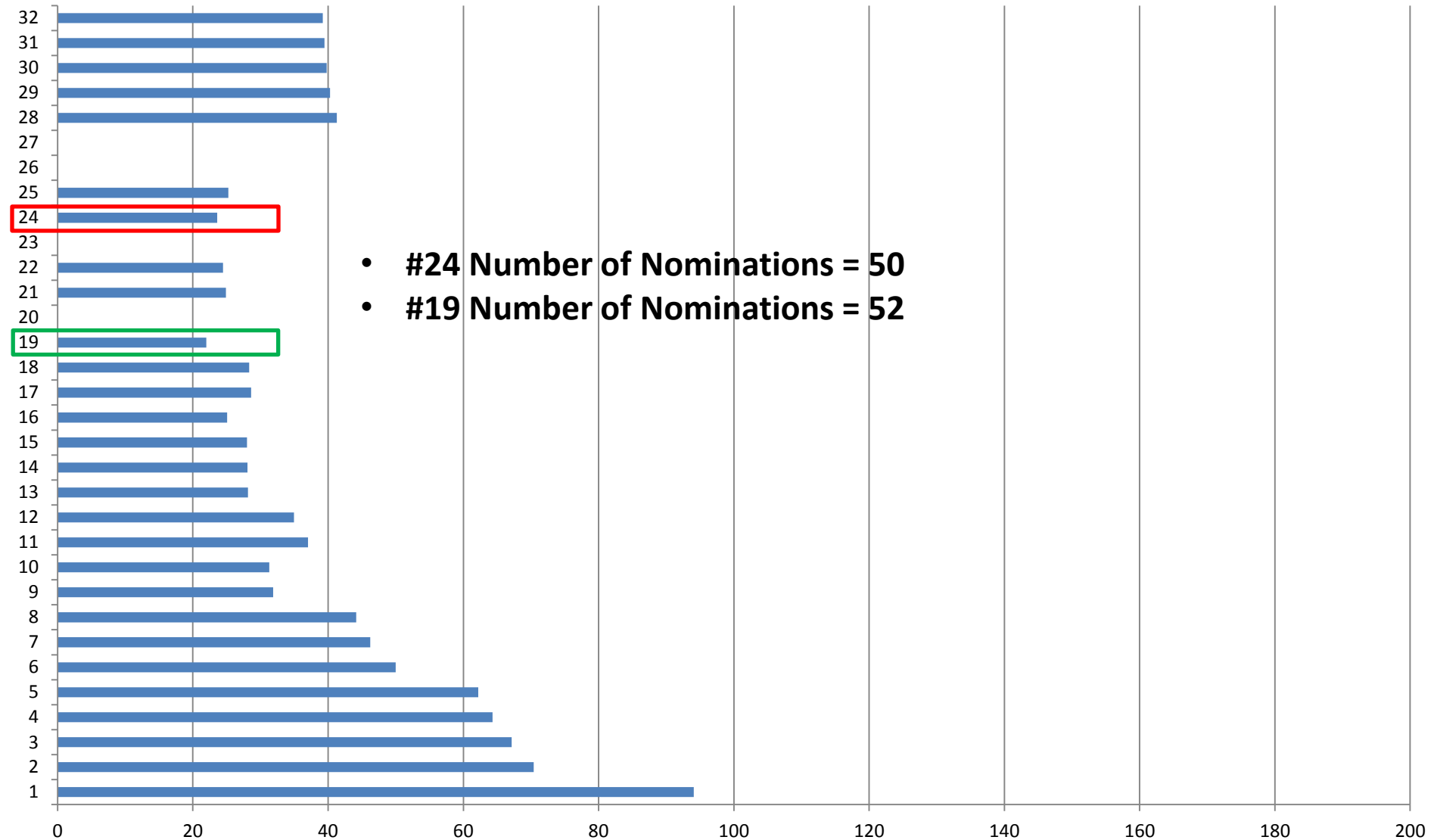


Selection Phase: Lowest Point Totals



**#19 and #24 are eligible for elimination,
but notice that #24 has more points than #19**

Elimination Phase: Fewest Nominations



- #24 Number of Nominations = 50
- #19 Number of Nominations = 52

**#24 has fewer nominations, so is eliminated
-- even though it had more points than #19!**

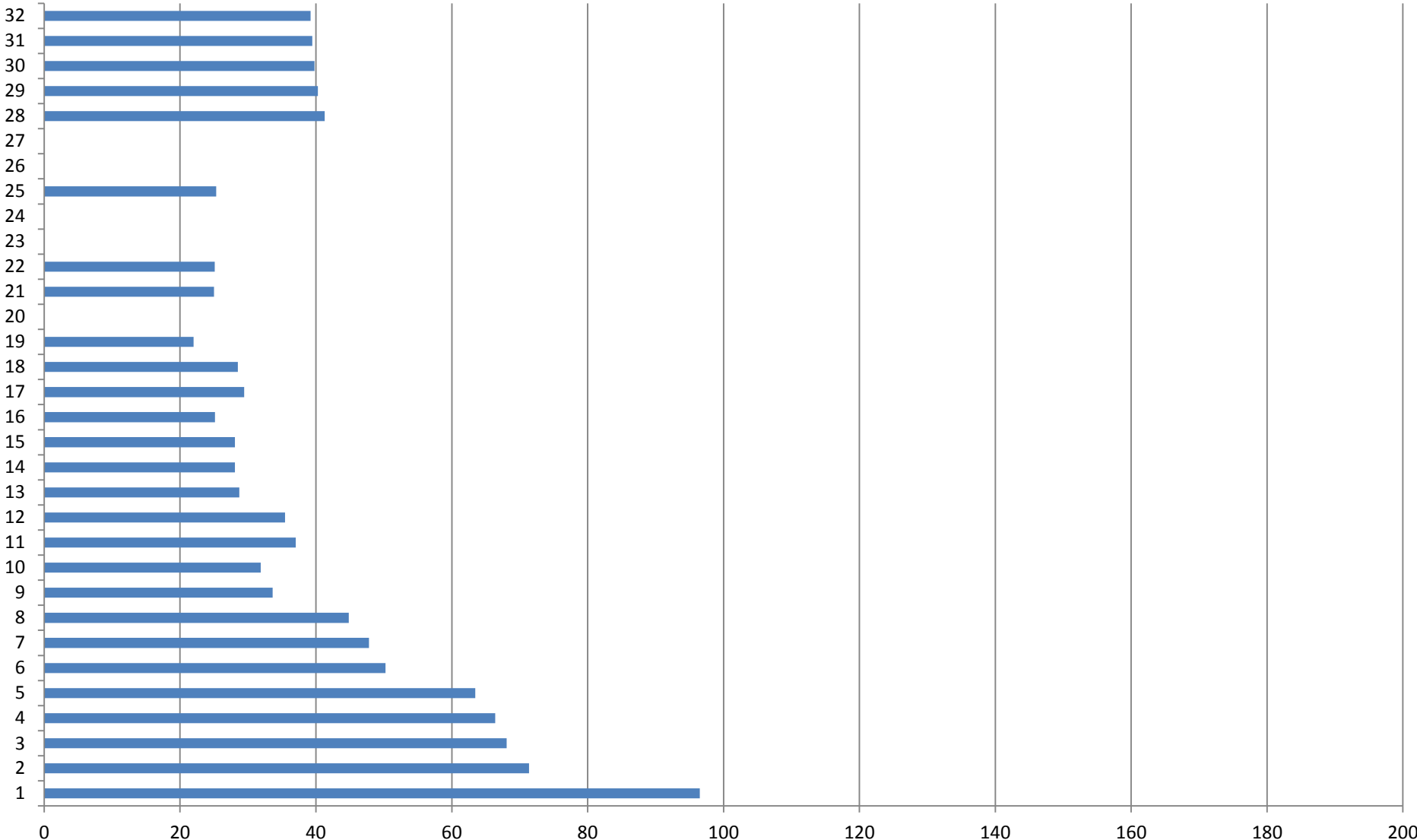
Points vs. Nominations

- So, the bottom line is that not having enough nominations is what eliminates a nominee – exactly as it is under the current system.
- There is no way that you (alone) can increase the number of nominations your favorite nominee gets – not even by only listing that one nominee.
- If you only list one nominee (“bullet voting”), you can give it at most an extra $\frac{4}{5}$ of a point (but more reasonably only around $\frac{1}{3}$ of a point, because you aren’t likely to pick all five finalists in any event).
- Listing only one nominee would also have to give your favorite enough points to put it all the way into fourth place, so that its nominations are never compared for elimination.
- The odds of making this much difference with this strategy are very, very small – and the price you pay is that you don’t get to nominate any of your other favorites.
- **The best strategy is to nominate ANYTHING and EVERYTHING you think is Hugo-worthy!**

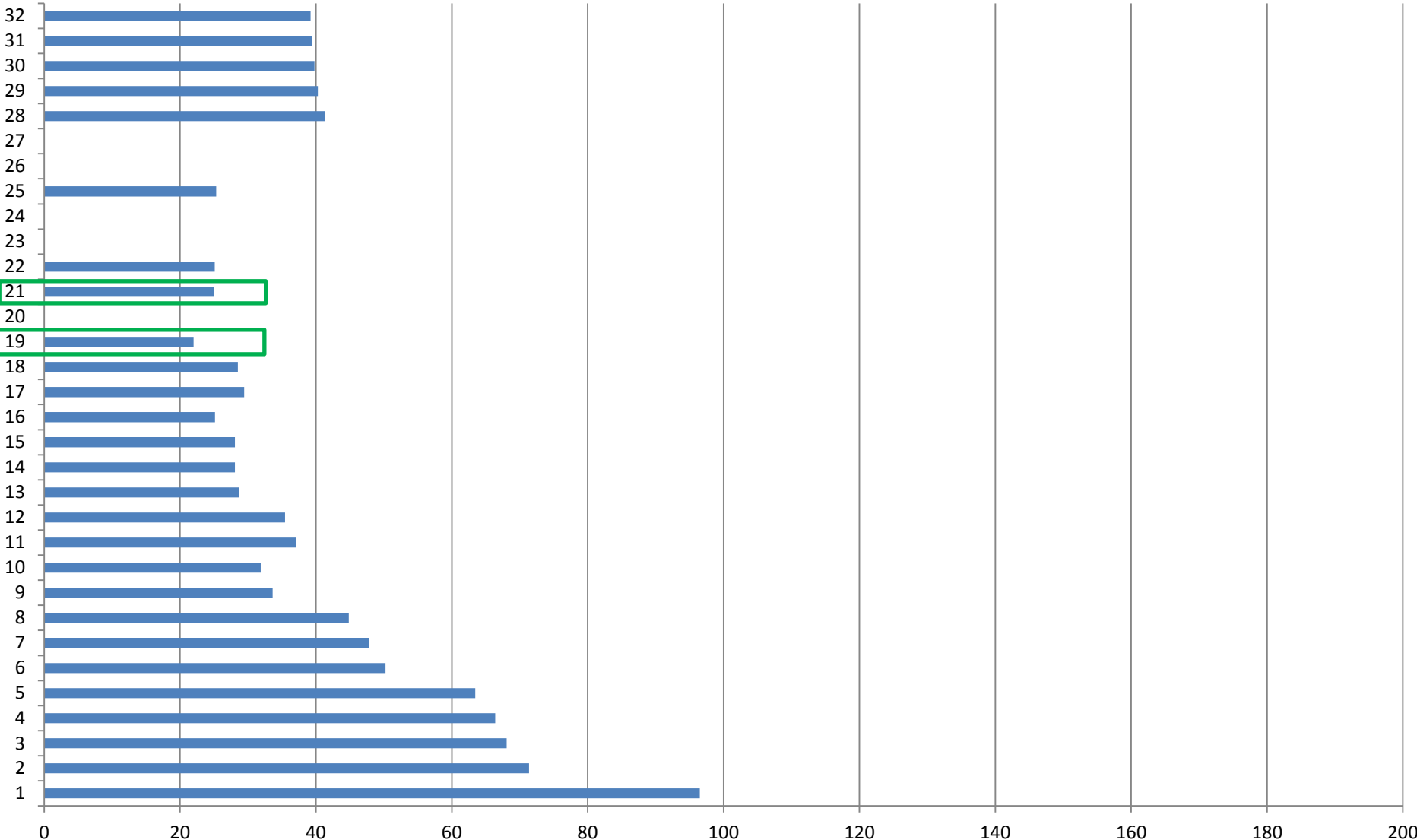
Voter #44

- So far, all of Voter #44's remaining four nominees have survived.
- **Let's jump ahead to Round #7...**

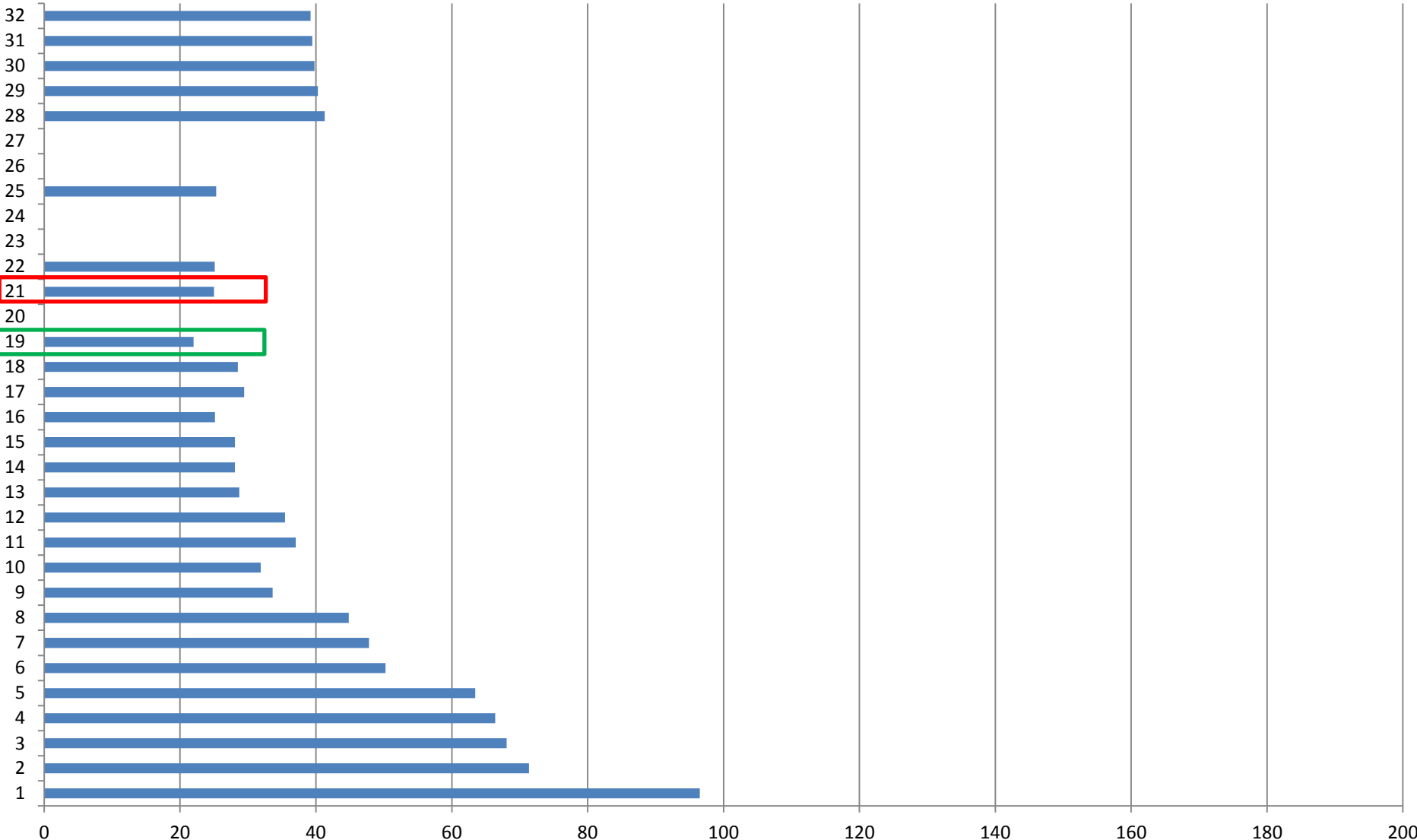
2013 Best Novel Point Totals – Round 6



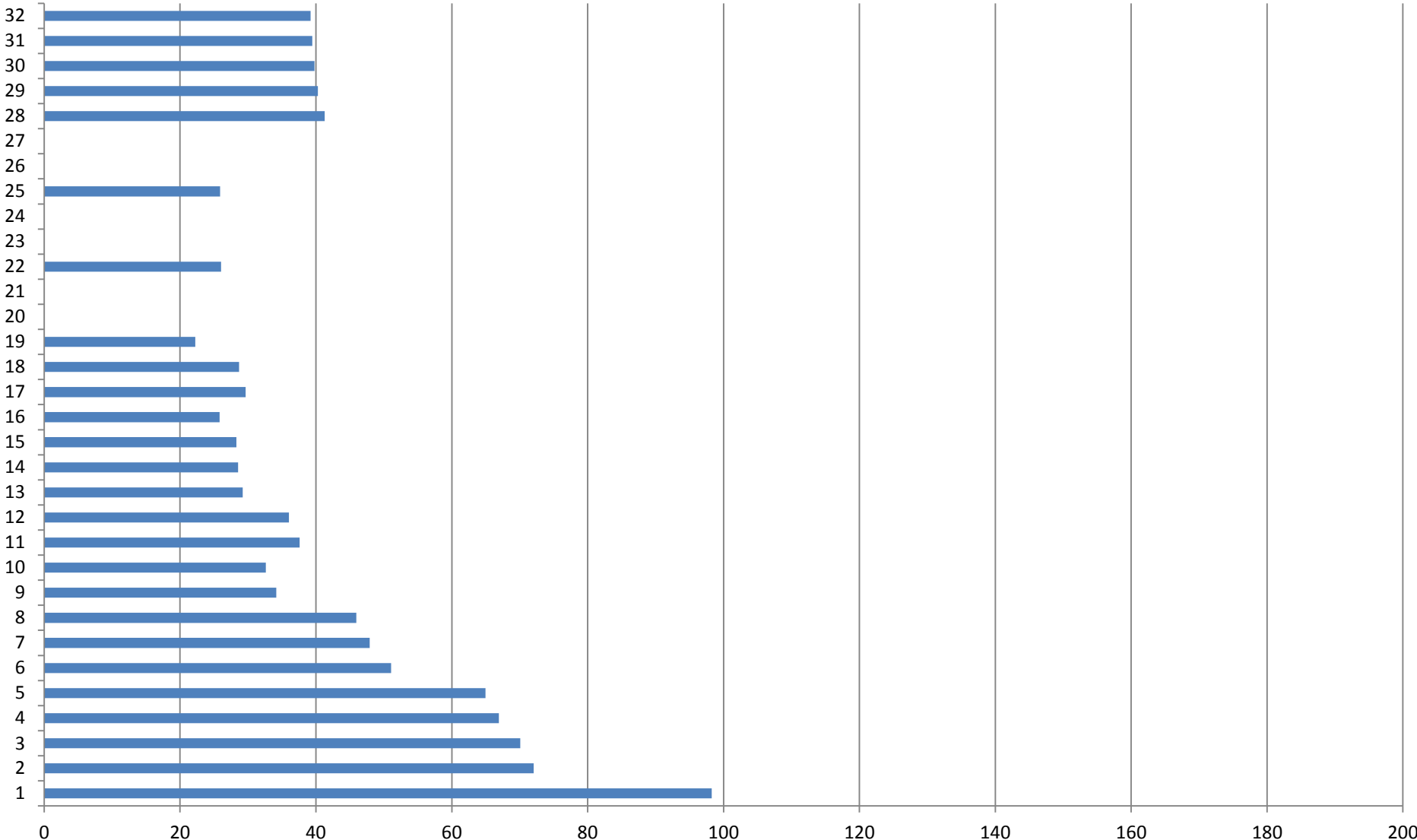
2013 Best Novel Point Totals – Round 6



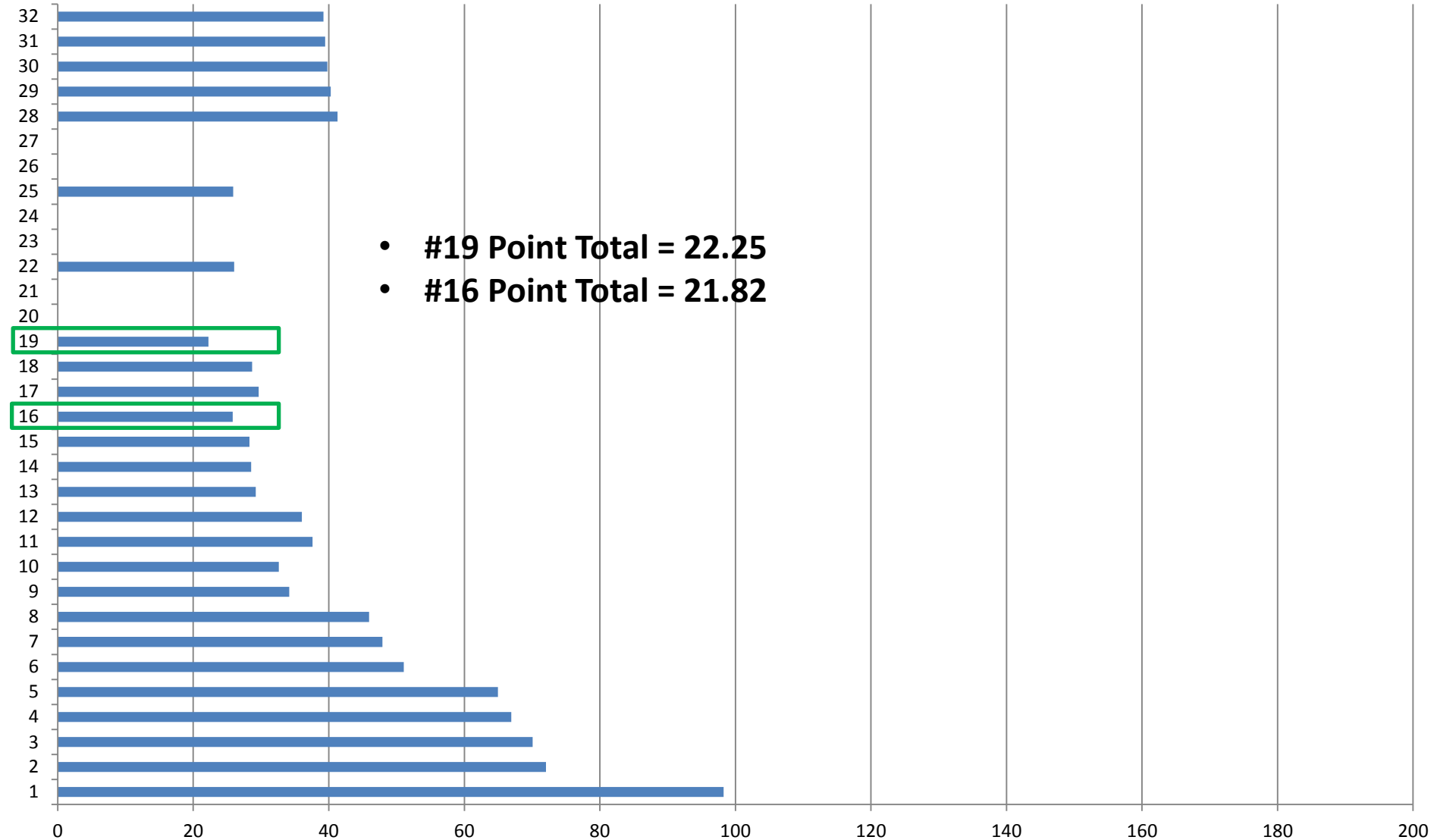
2013 Best Novel Point Totals – Round 6



2013 Best Novel Point Totals – Round 7

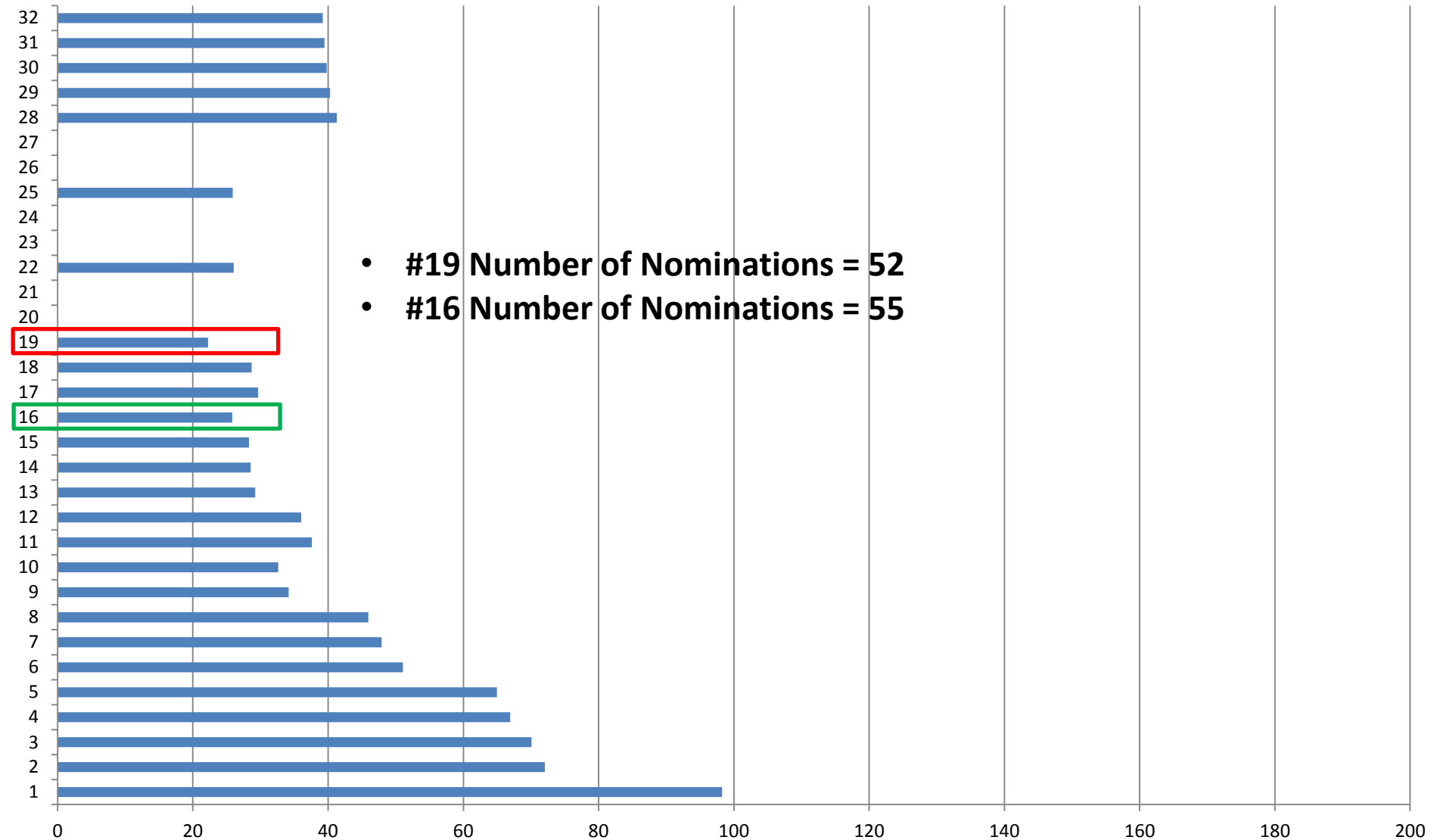


Selection Phase: Lowest Point Totals



#16 and #19 are eligible for elimination

Elimination Phase: Fewest Nominations



#19 has fewer nominations, so is eliminated

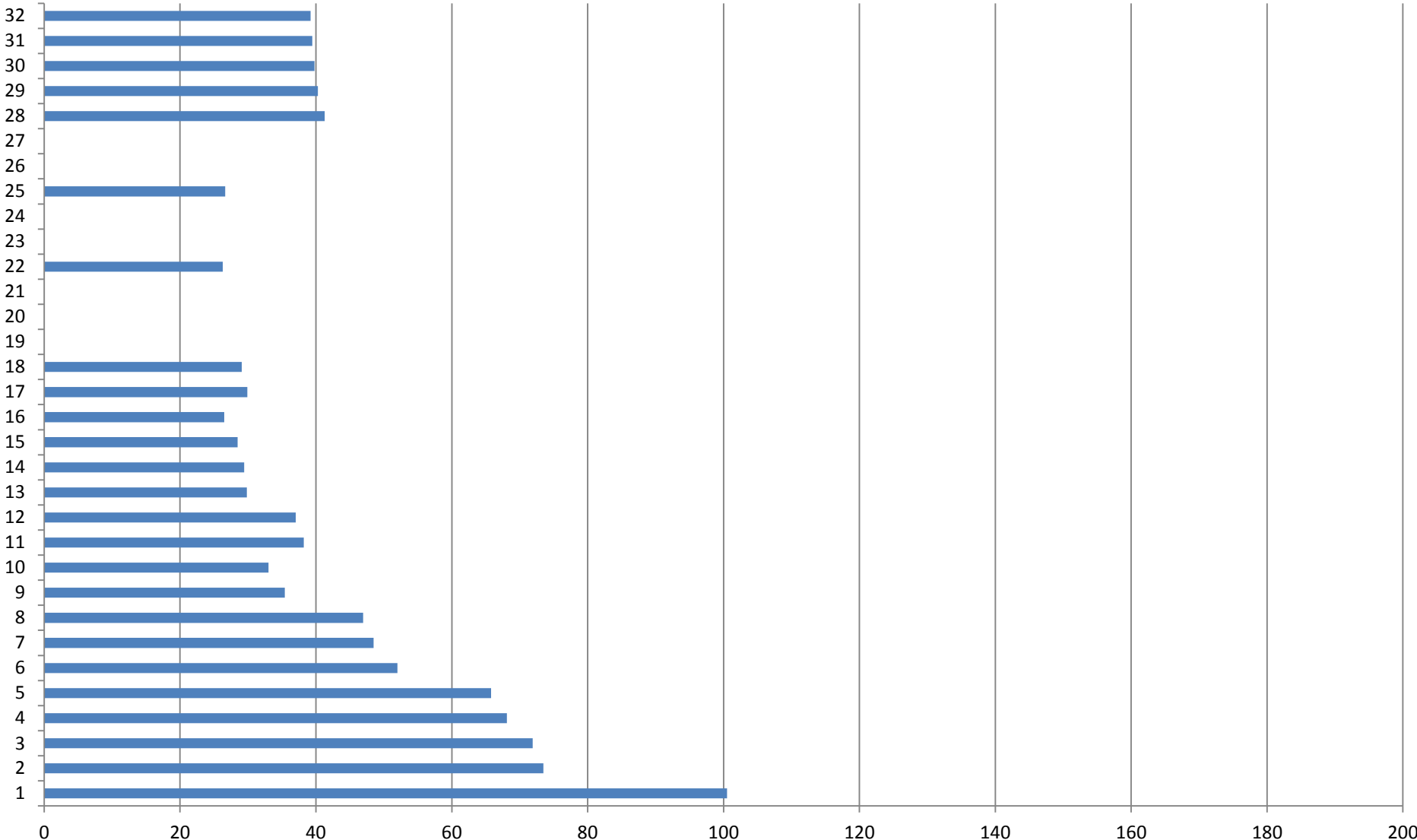
Voter #44

- #19 was on Voter #44's nomination ballot, so it is removed.
- There are now only three nominees on Voter #44's nomination ballot.
- Each nominee listed on Voter #44 nomination ballot now gets $1/3$ point from Voter #44.
- **Again, the remaining three nominees mentioned on Voter #44's ballot have more points than they did last round!**

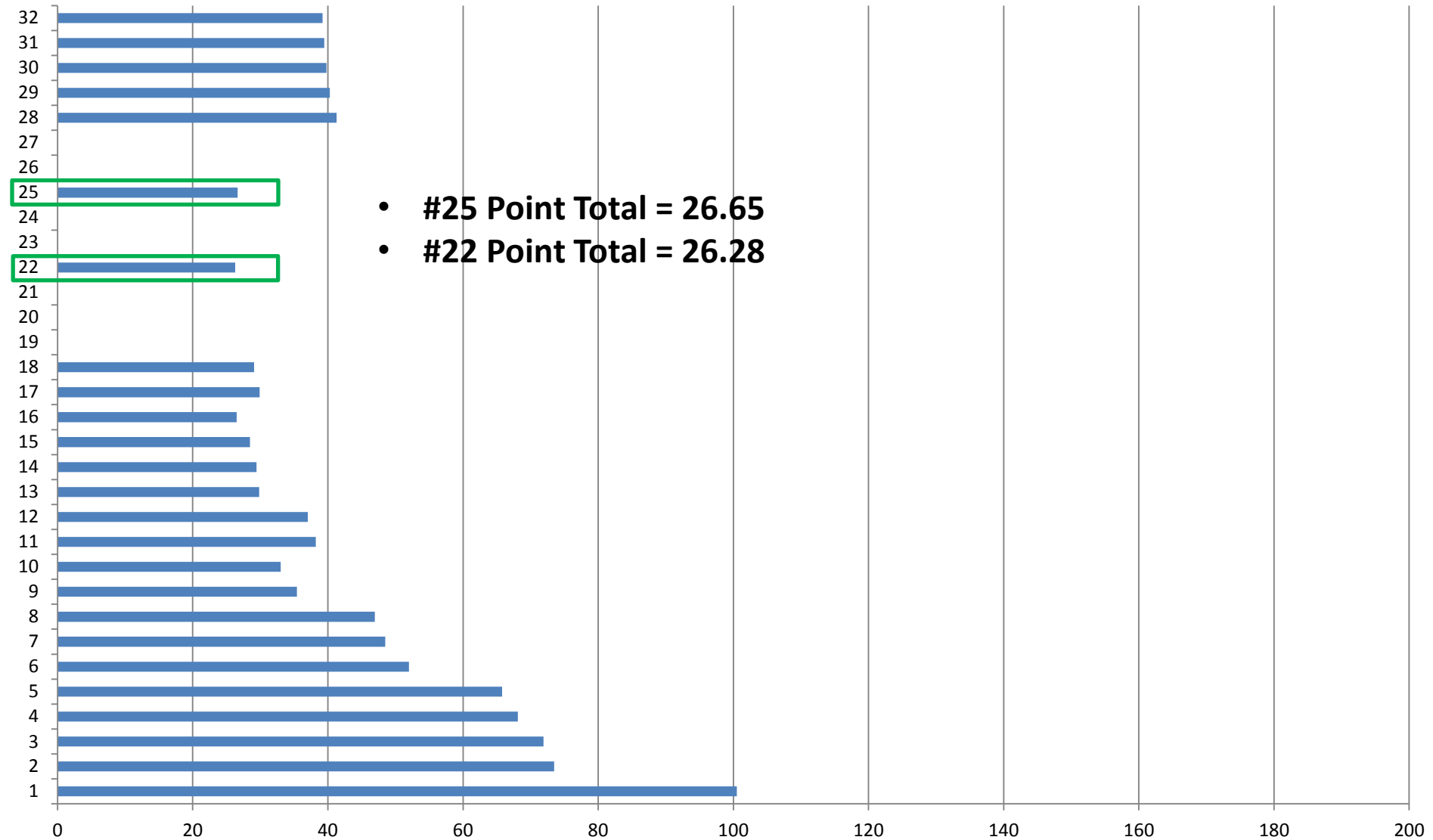
Voter #44

- Voter #44's current nomination ballot looks like this:
 - #4
 - #1
 - #22

2013 Best Novel Point Totals – Round 8

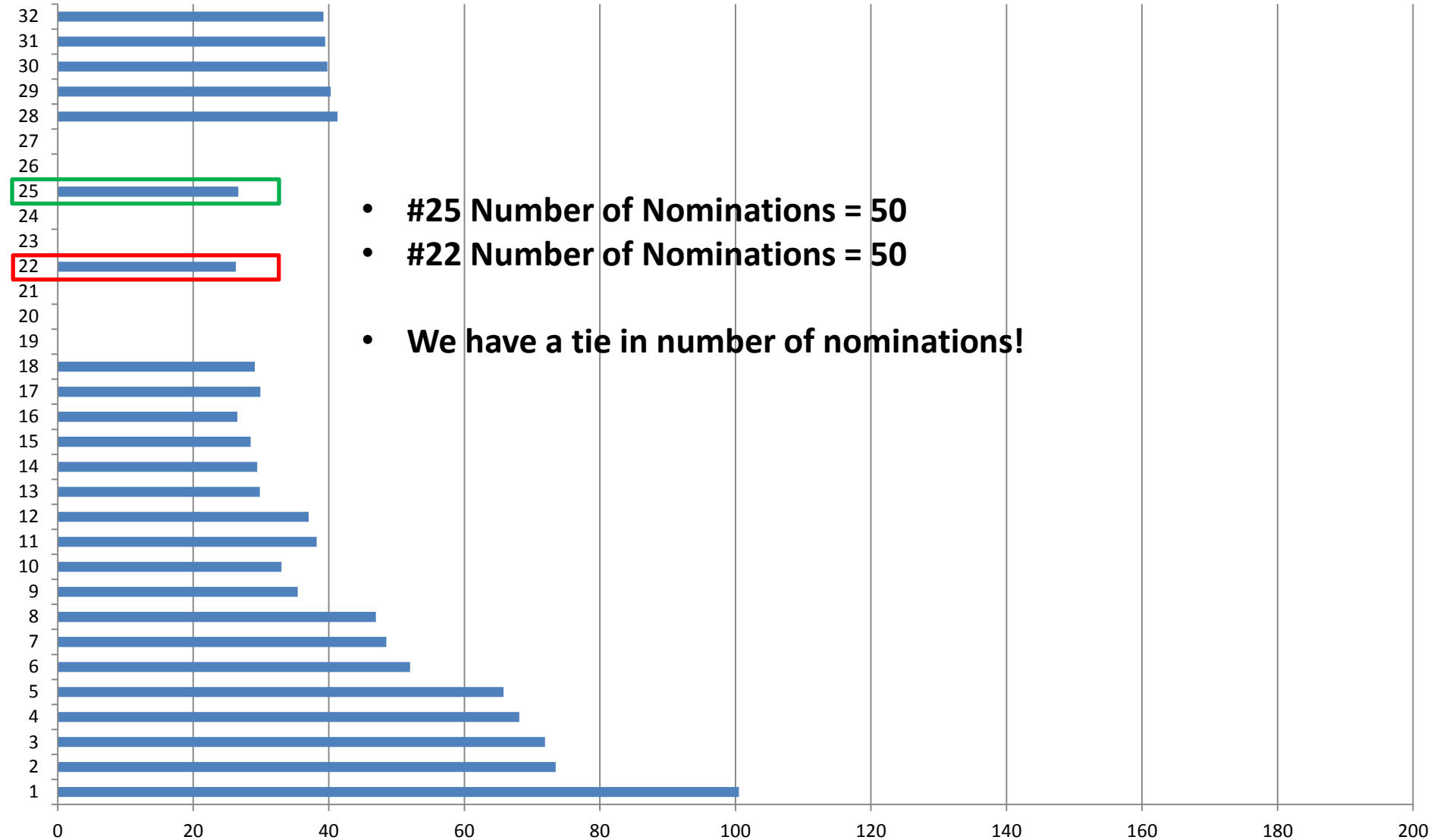


Selection Phase: Lowest Point Totals



#22 and #25 are eligible for elimination

Elimination Phase: Fewest Nominations



- #25 Number of Nominations = 50
- #22 Number of Nominations = 50
- We have a tie in number of nominations!

We break the tie by eliminating the nominee with the lowest point total, so #22 is eliminated

Tie Breakers

- If two (or more) nominees have the same number of nominations, then we'll eliminate the one with fewer points.
- If they are also tied for points as well as nominations, then we will just eliminate all the tied nominees.
- This tie break method is consistent with Section 6.4 of the Worldcon Constitution.

Tie Breakers

- Note that we don't really have tie-breakers as such in the selection phase.
- We need to select at least two nominees as candidates for elimination.
 - If there is a tie for lowest point total, we'll just take all of those and not select the second-lowest point total nominees
 - If there is only one nominee with the lowest point total, but there is a tie for second-lowest point total, we'll take the lowest and all of the second-lowest point total nominees.

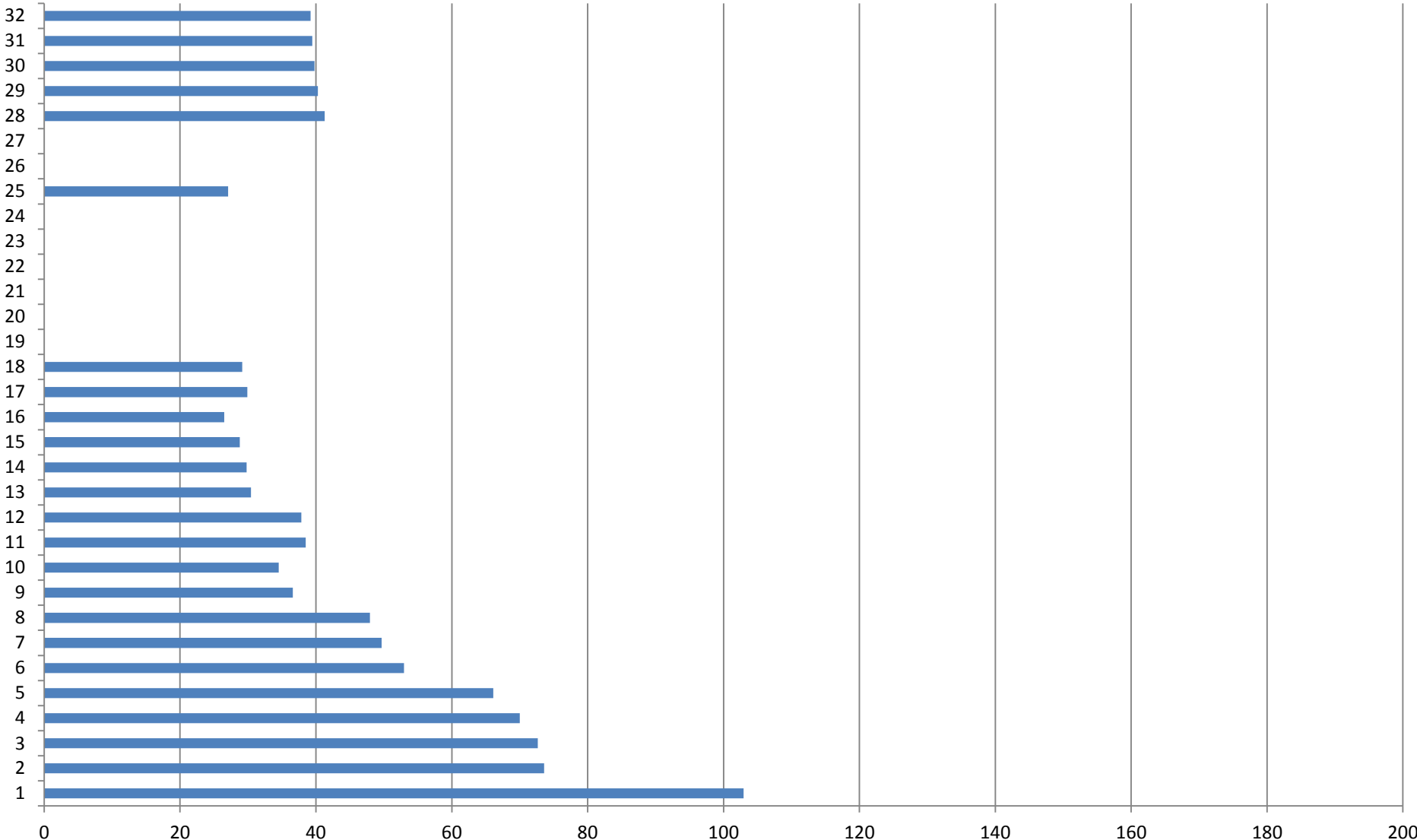
Voter #44

- #22 was on Voter #44's nomination ballot, so it is removed.
- There are now only two works on Voter #44's nomination ballot.
- Each nominee listed on Voter #44 nomination ballot now gets $1/2$ point from Voter #44.
- **Again, the remaining two nominees mentioned on Voter #44's ballot have more points than they did last round!**

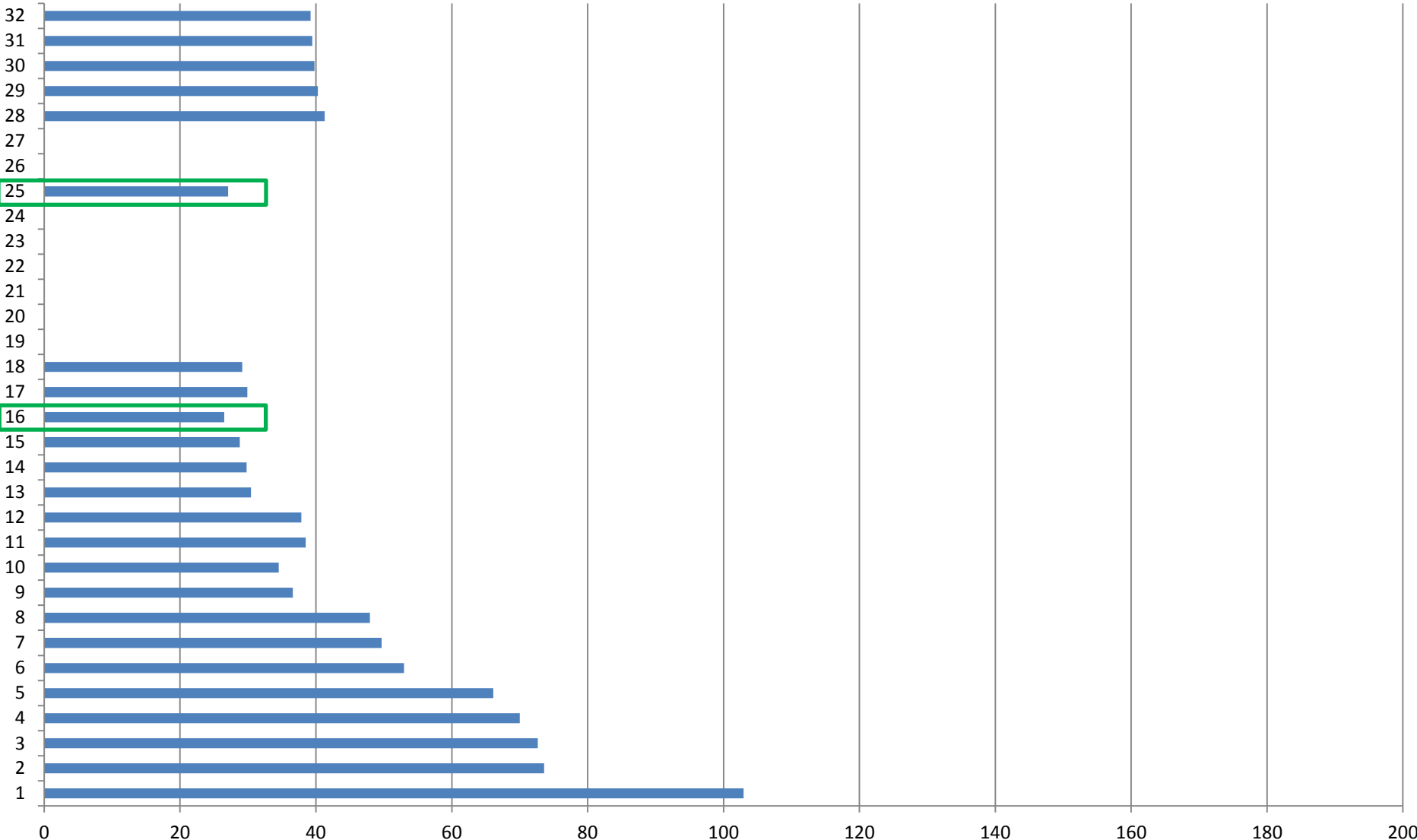
Voter #44

- Voter #44's current nomination ballot looks like this:
 - #4
 - #1
- Voter #44's remaining nominees will make it all the way to the final ballot.
- **Let's jump ahead to Round #16...**

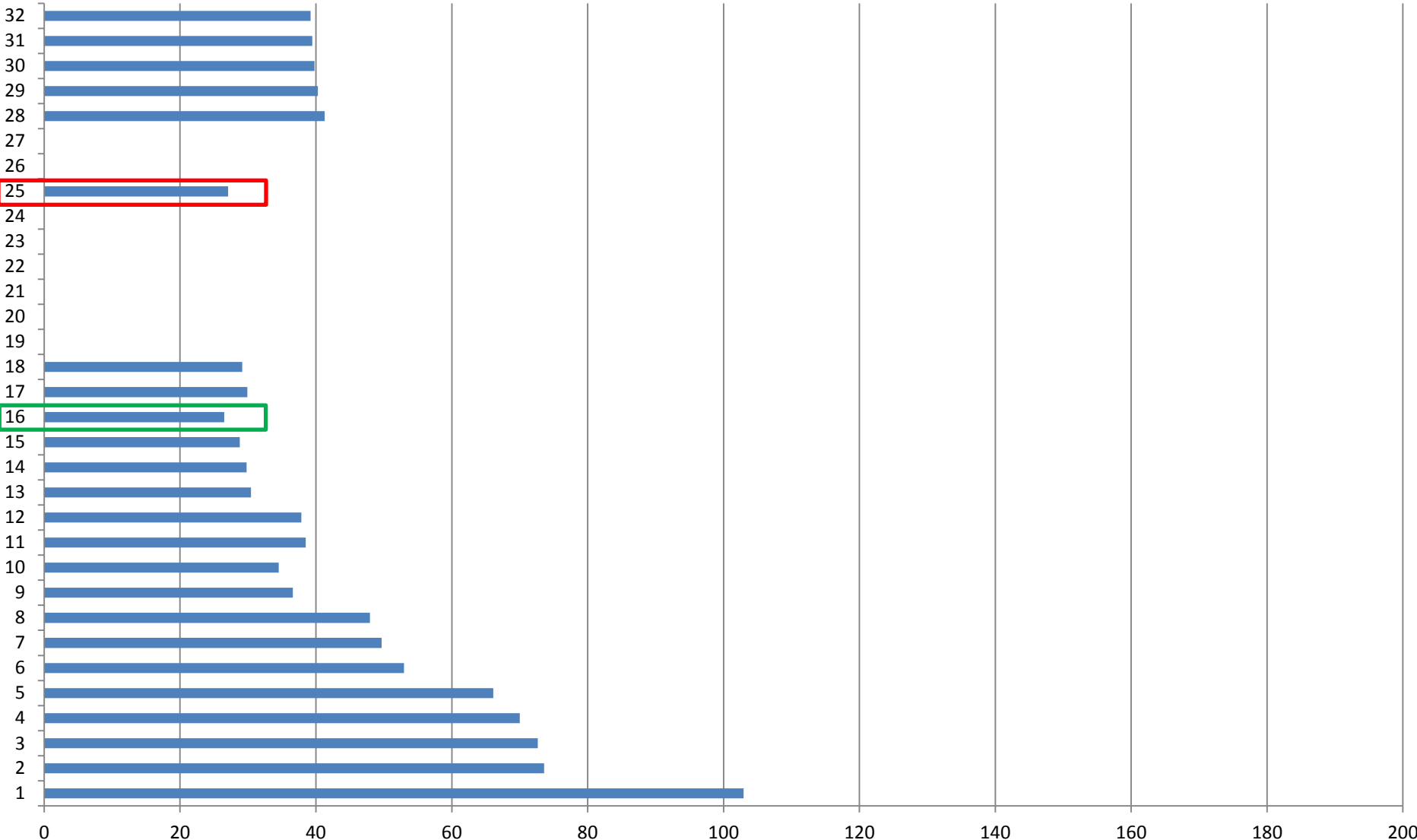
2013 Best Novel Point Totals – Round 9



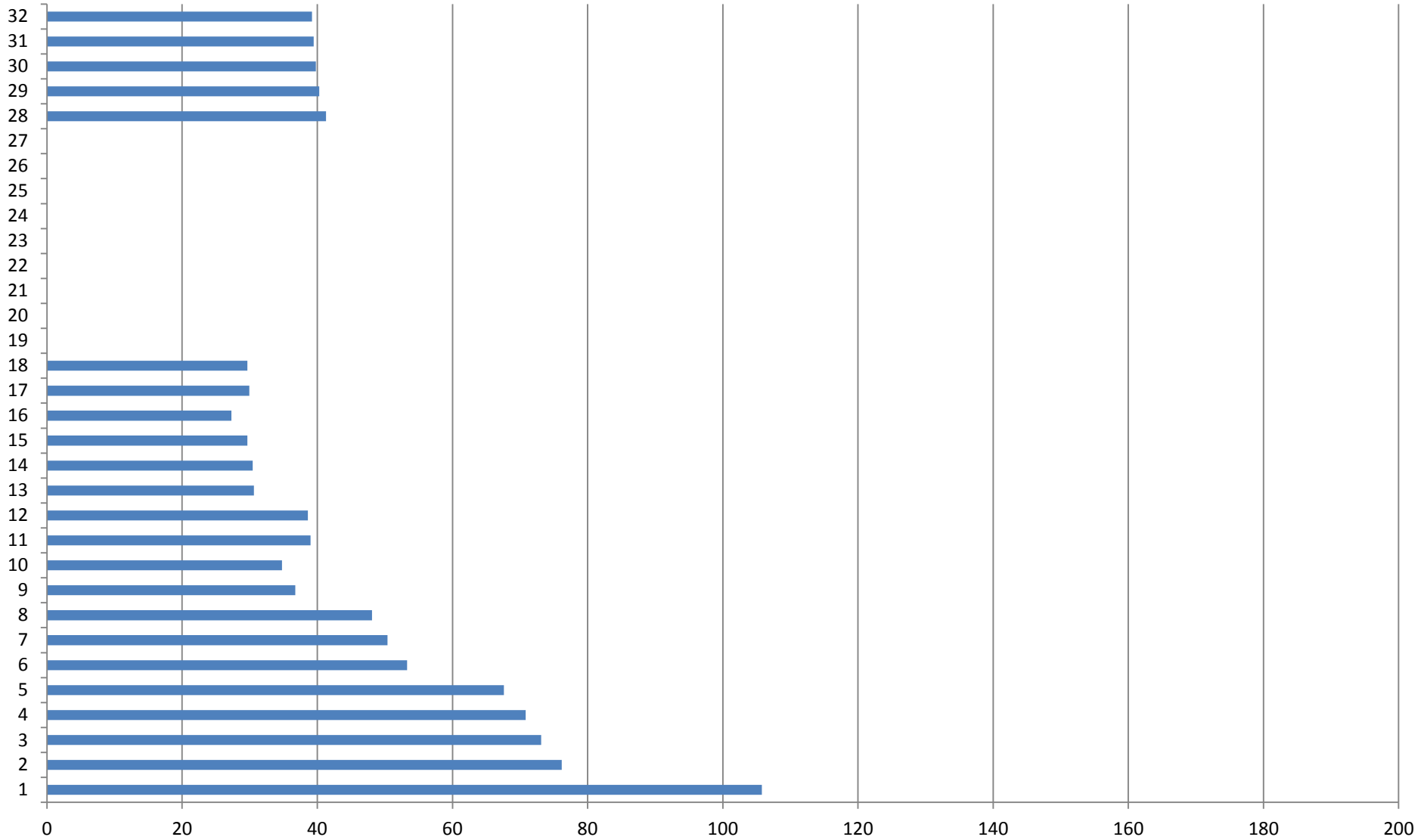
2013 Best Novel Point Totals – Round 9



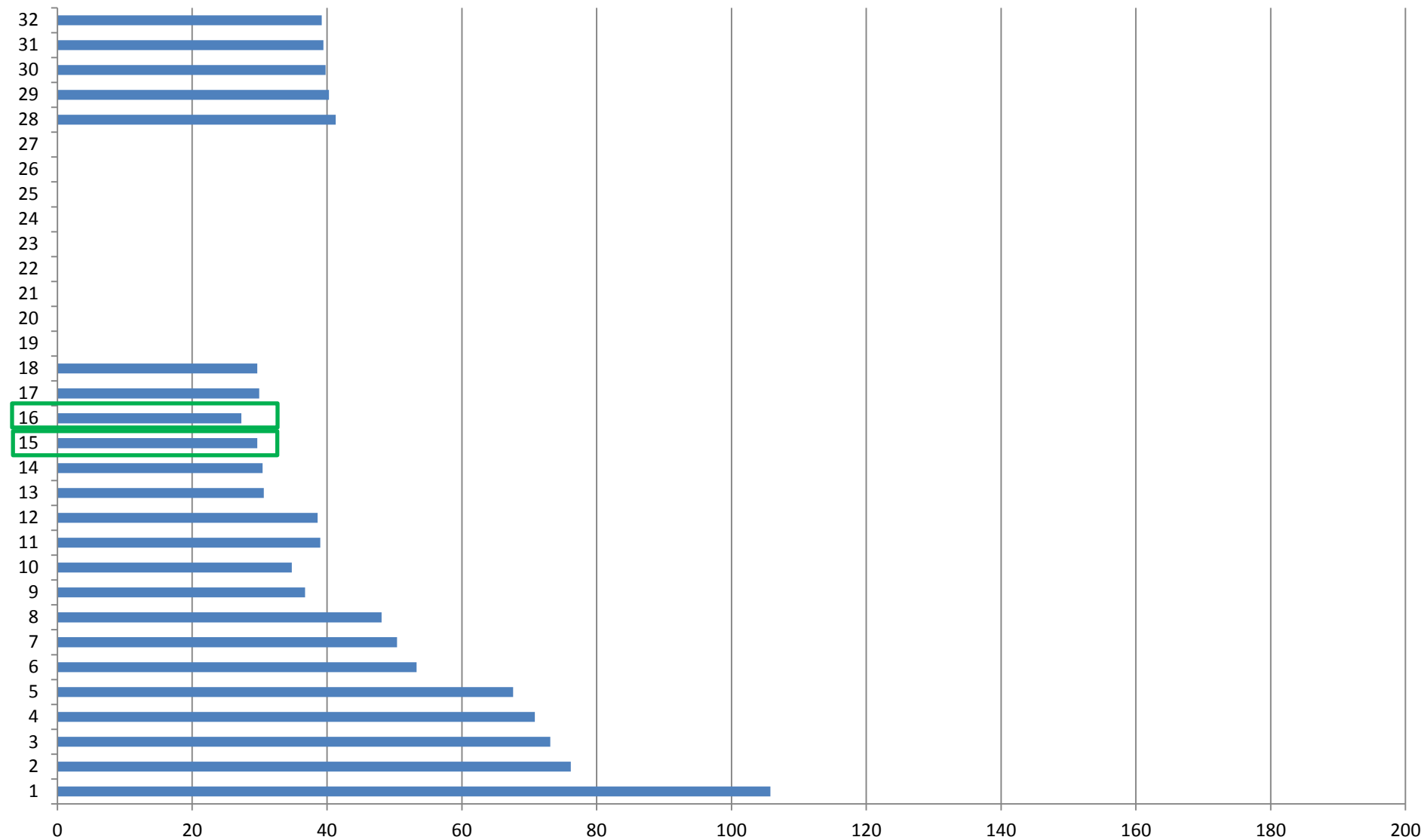
2013 Best Novel Point Totals – Round 9



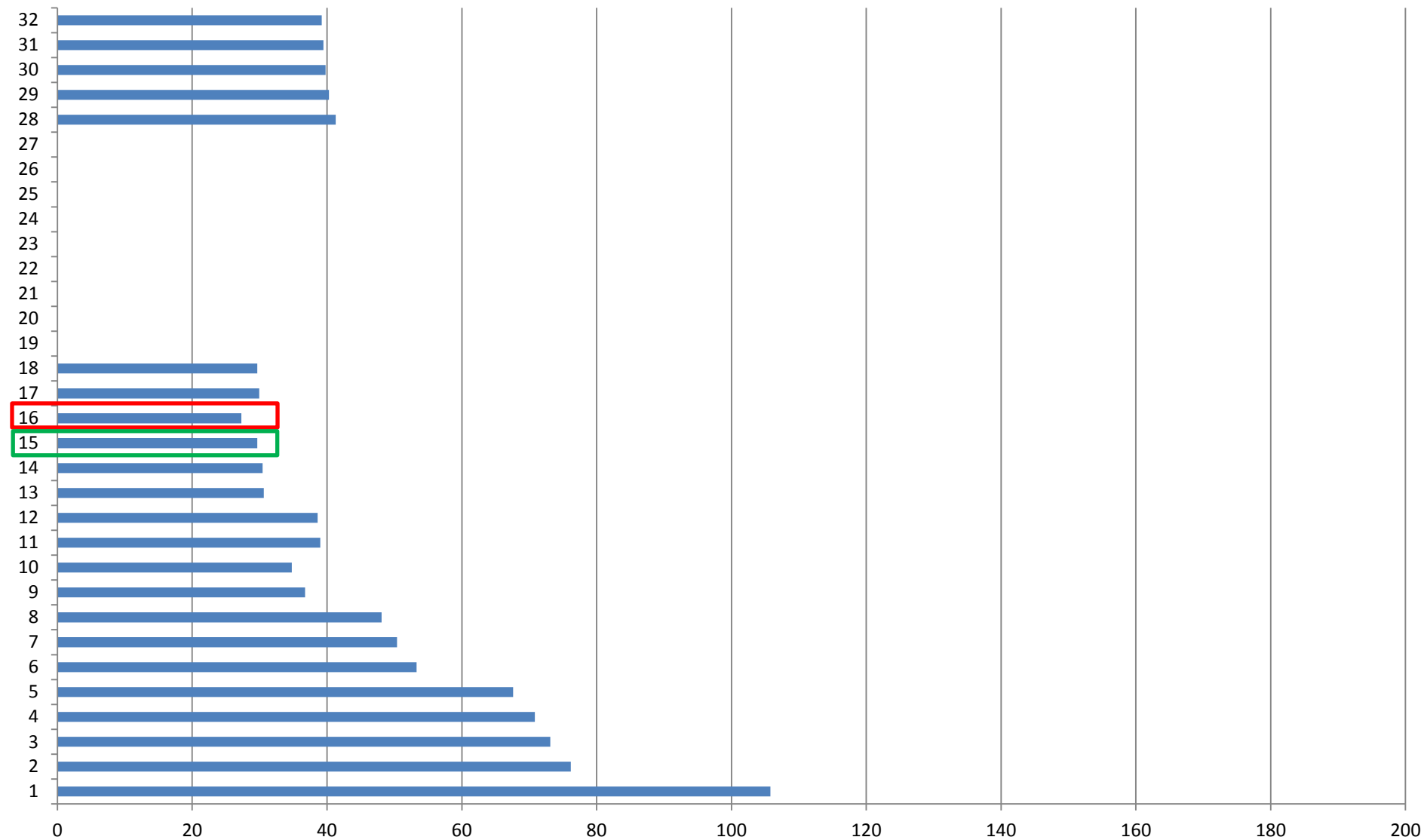
2013 Best Novel Point Totals – Round 10



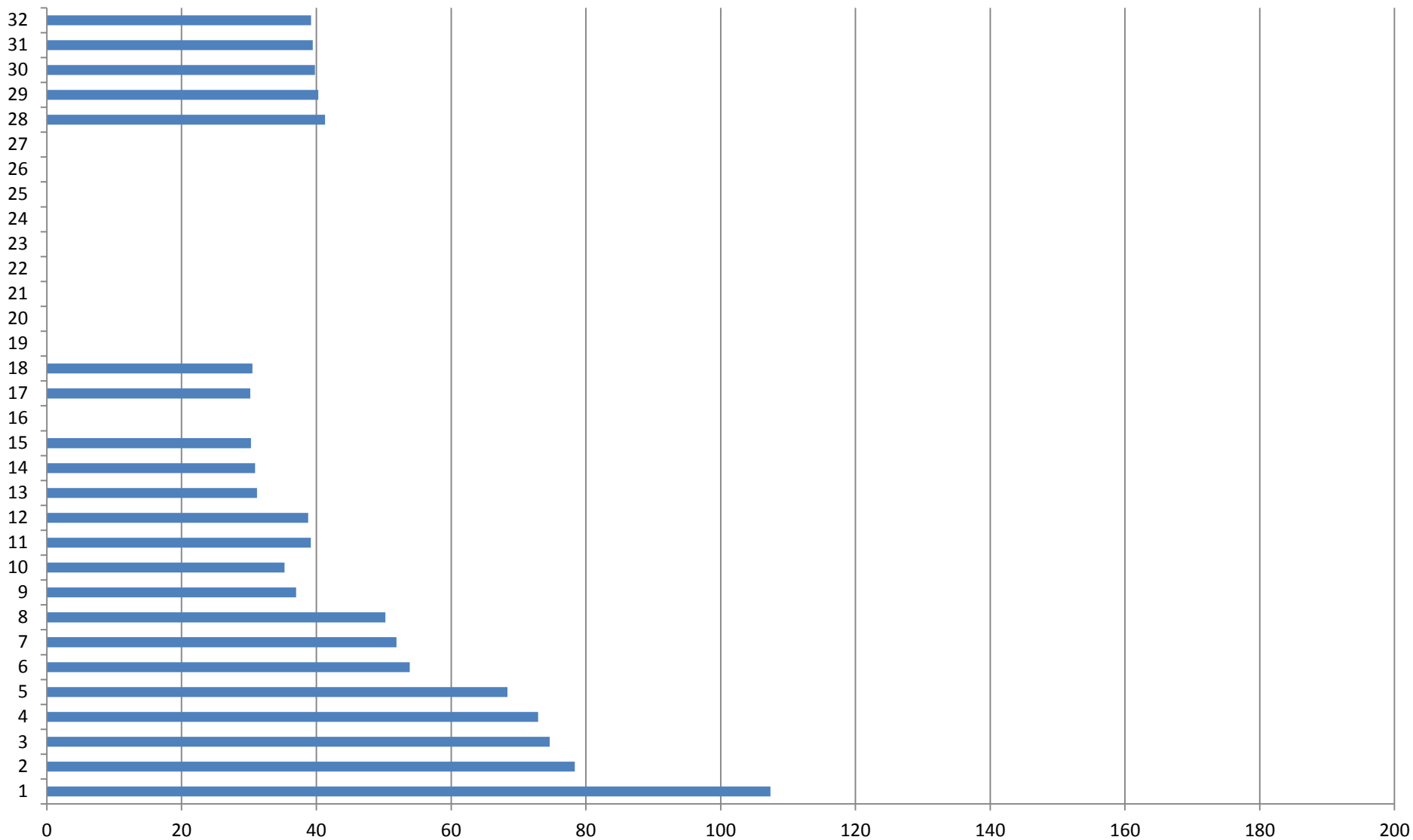
2013 Best Novel Point Totals – Round 10



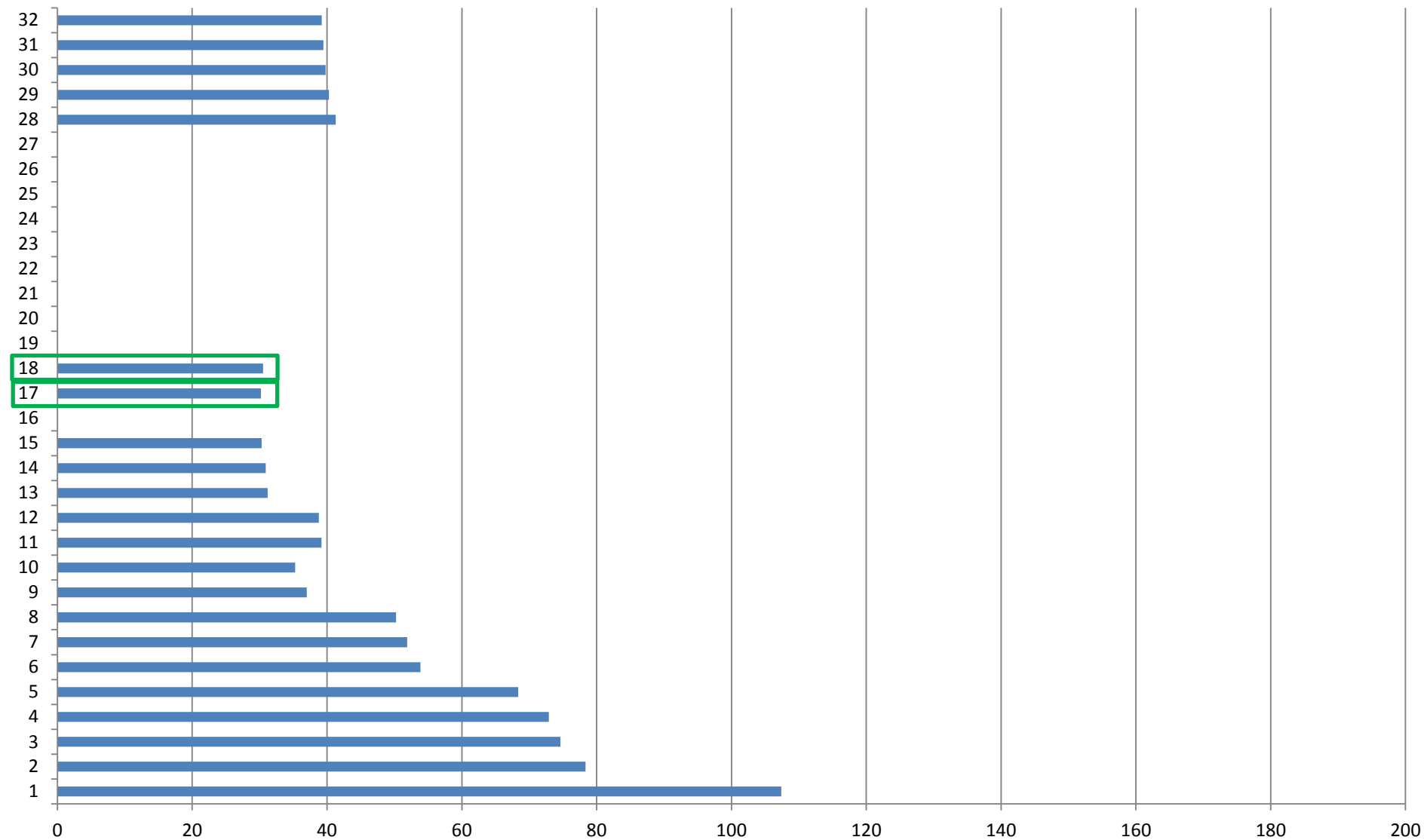
2013 Best Novel Point Totals – Round 10



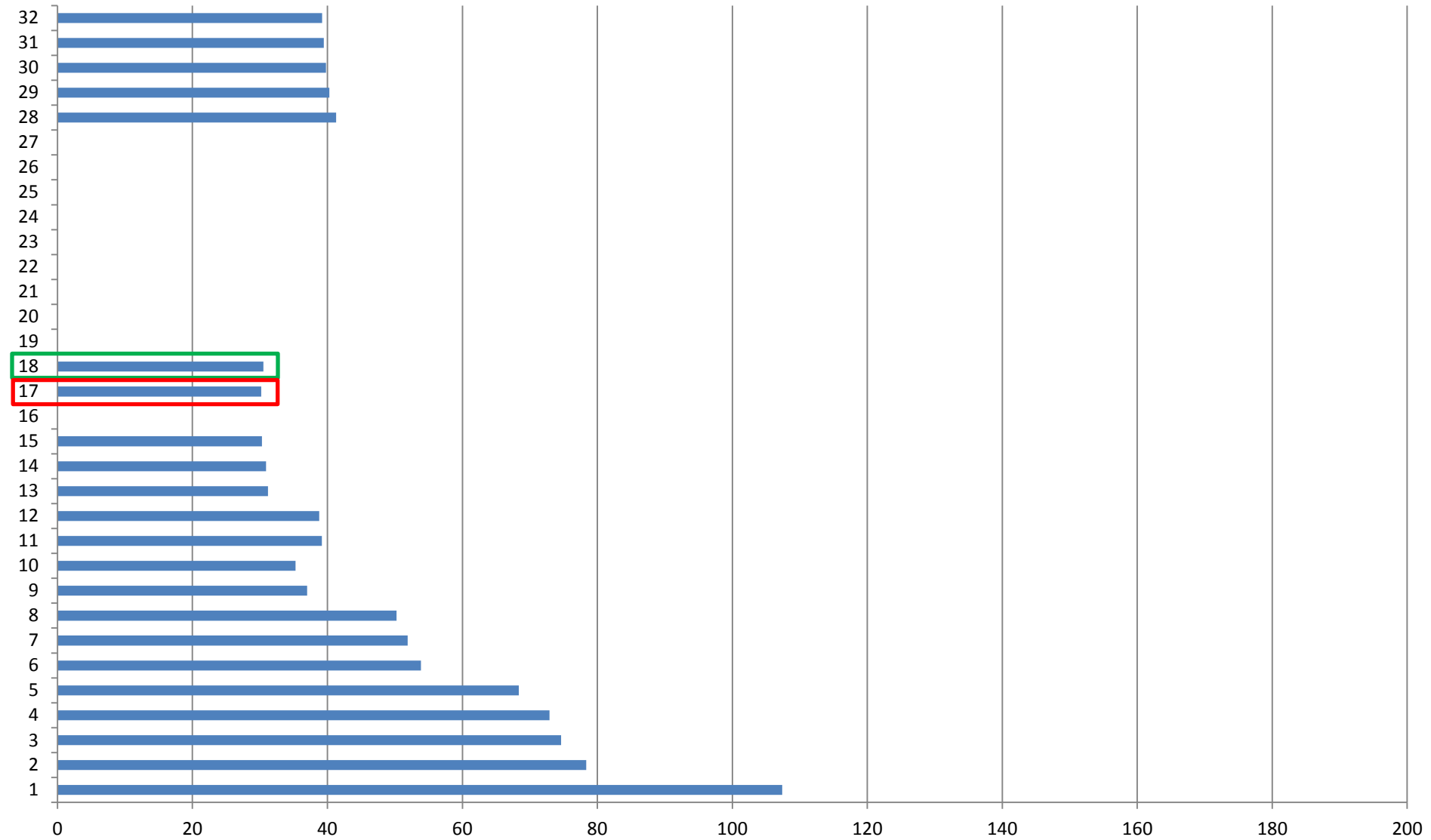
2013 Best Novel Point Totals – Round 11



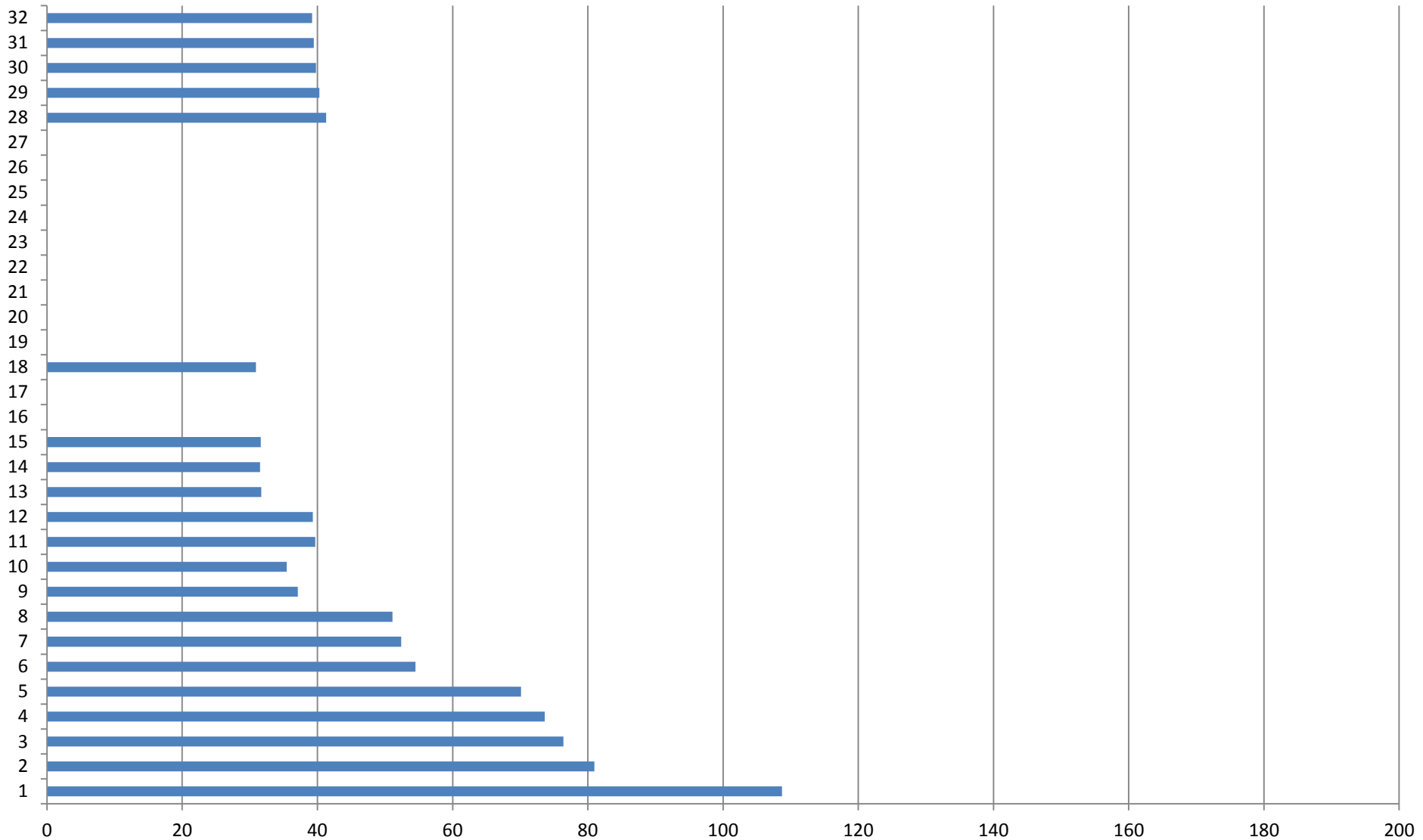
2013 Best Novel Point Totals – Round 11



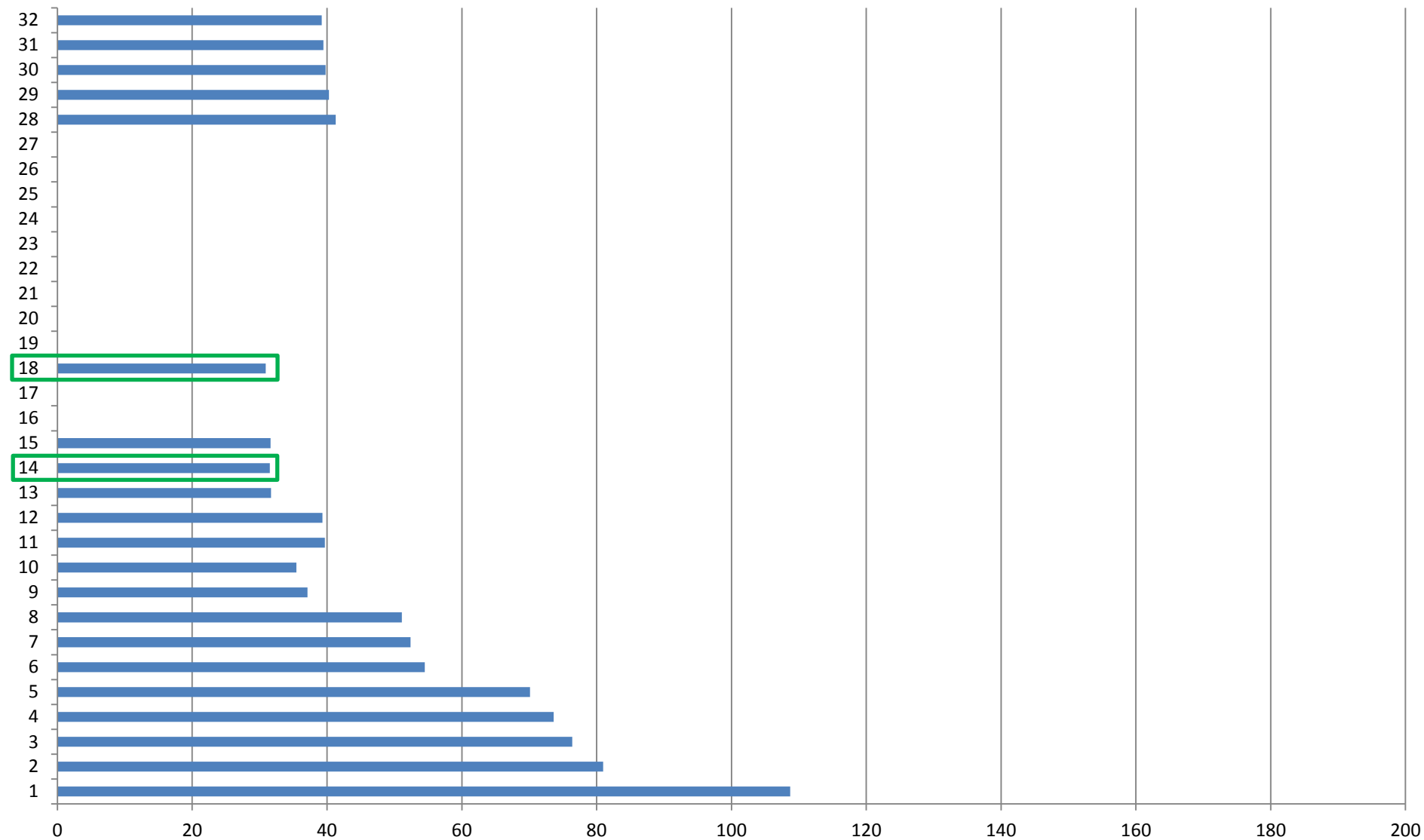
2013 Best Novel Point Totals – Round 11



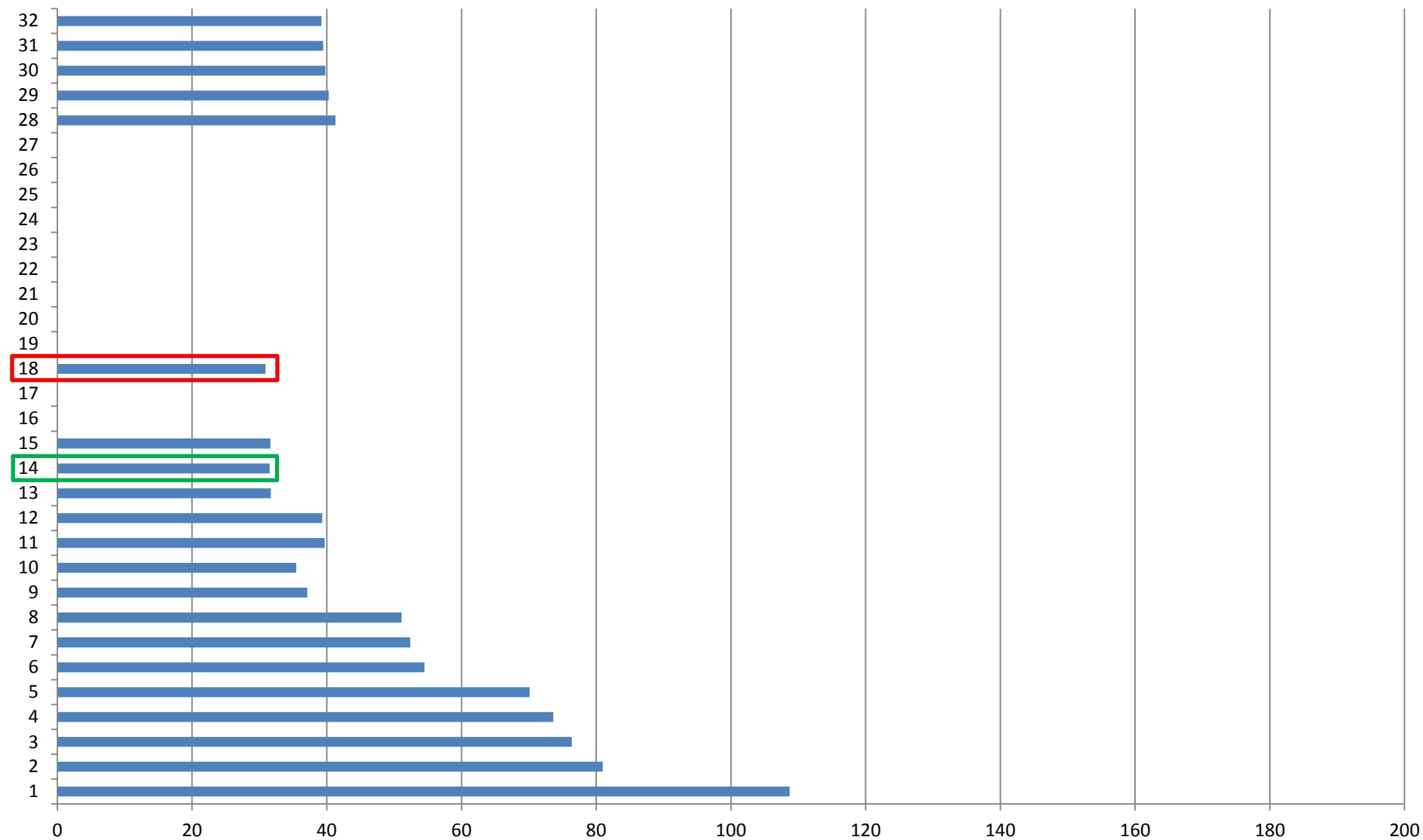
2013 Best Novel Point Totals – Round 12



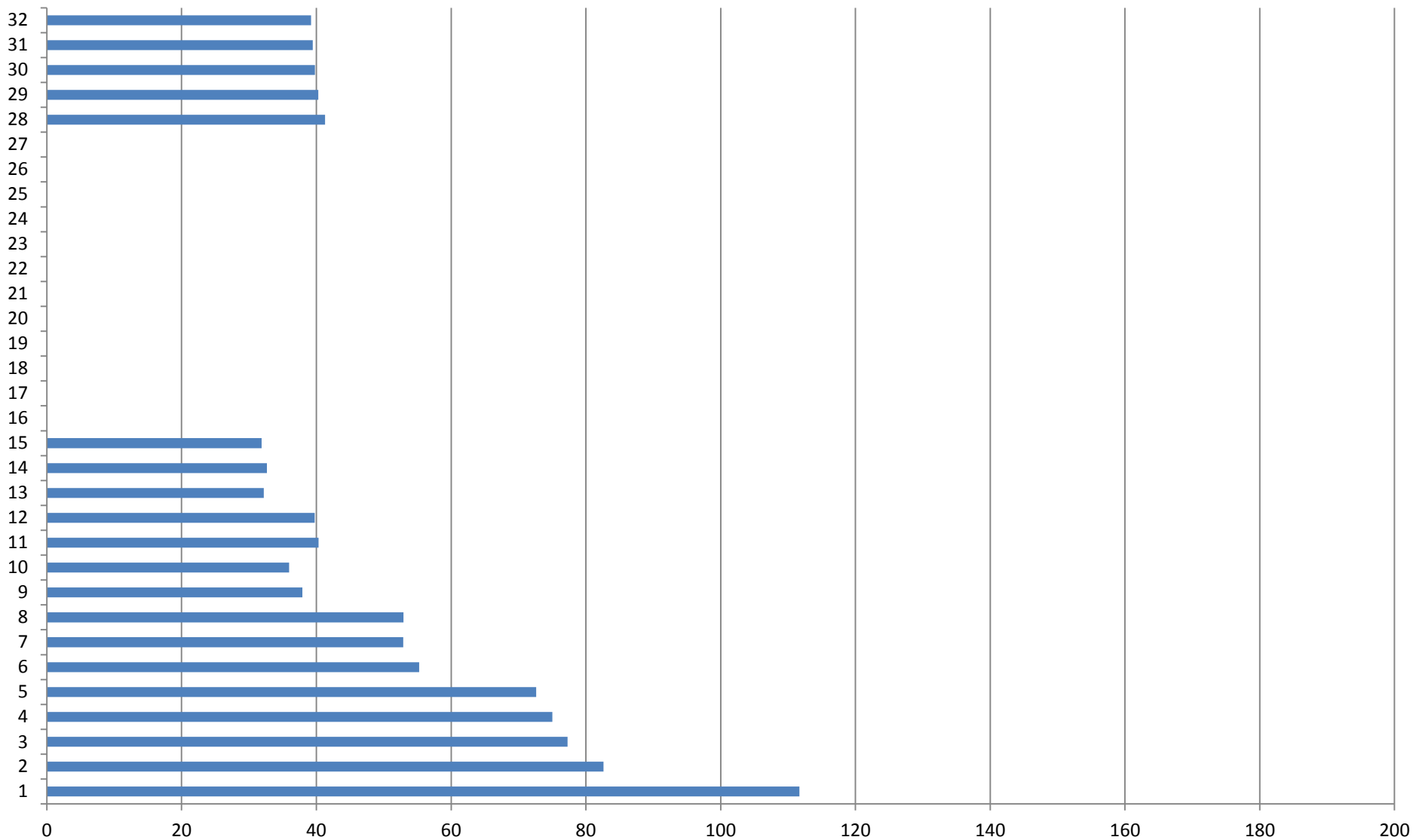
2013 Best Novel Point Totals – Round 12



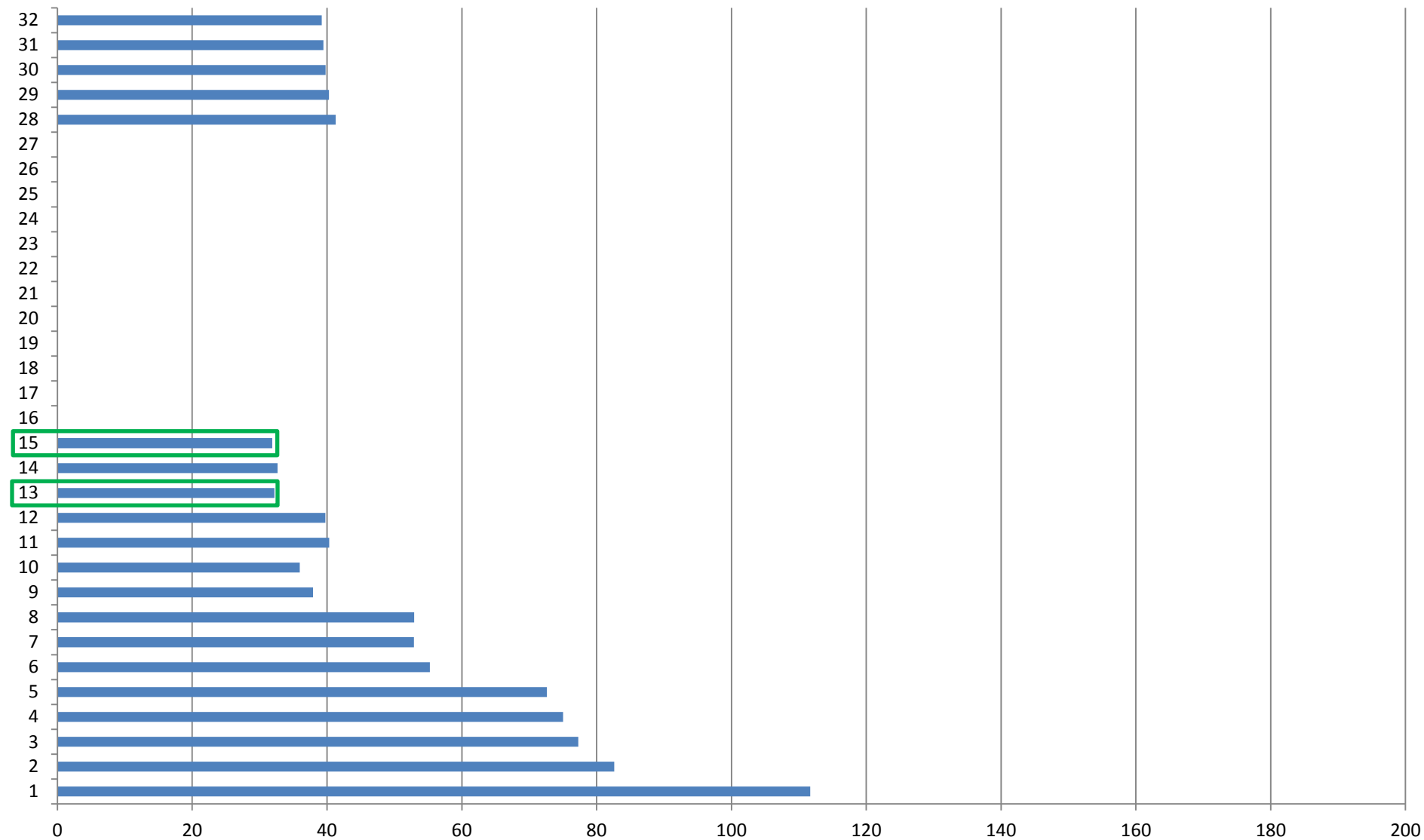
2013 Best Novel Point Totals – Round 12



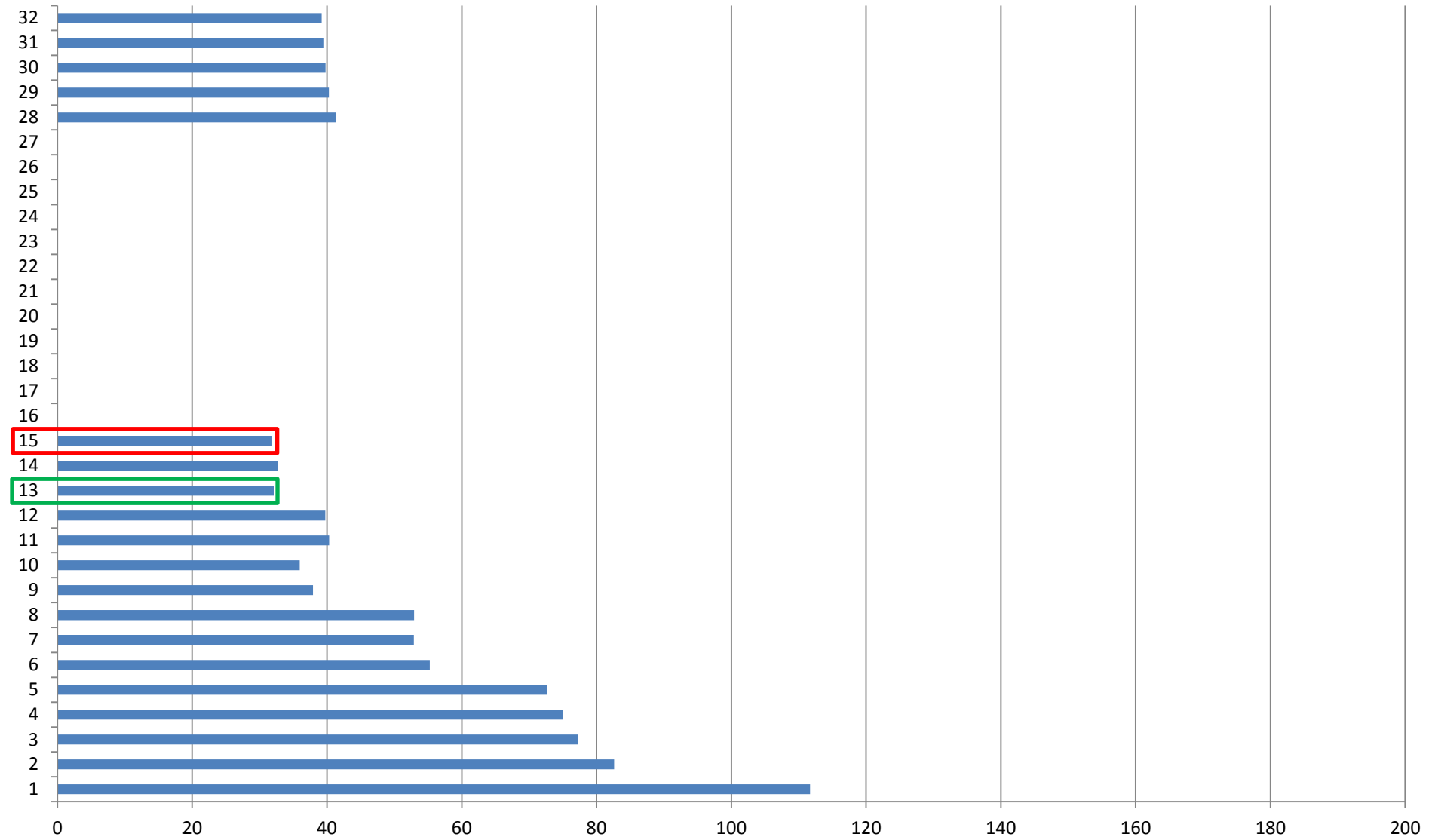
2013 Best Novel Point Totals – Round 13



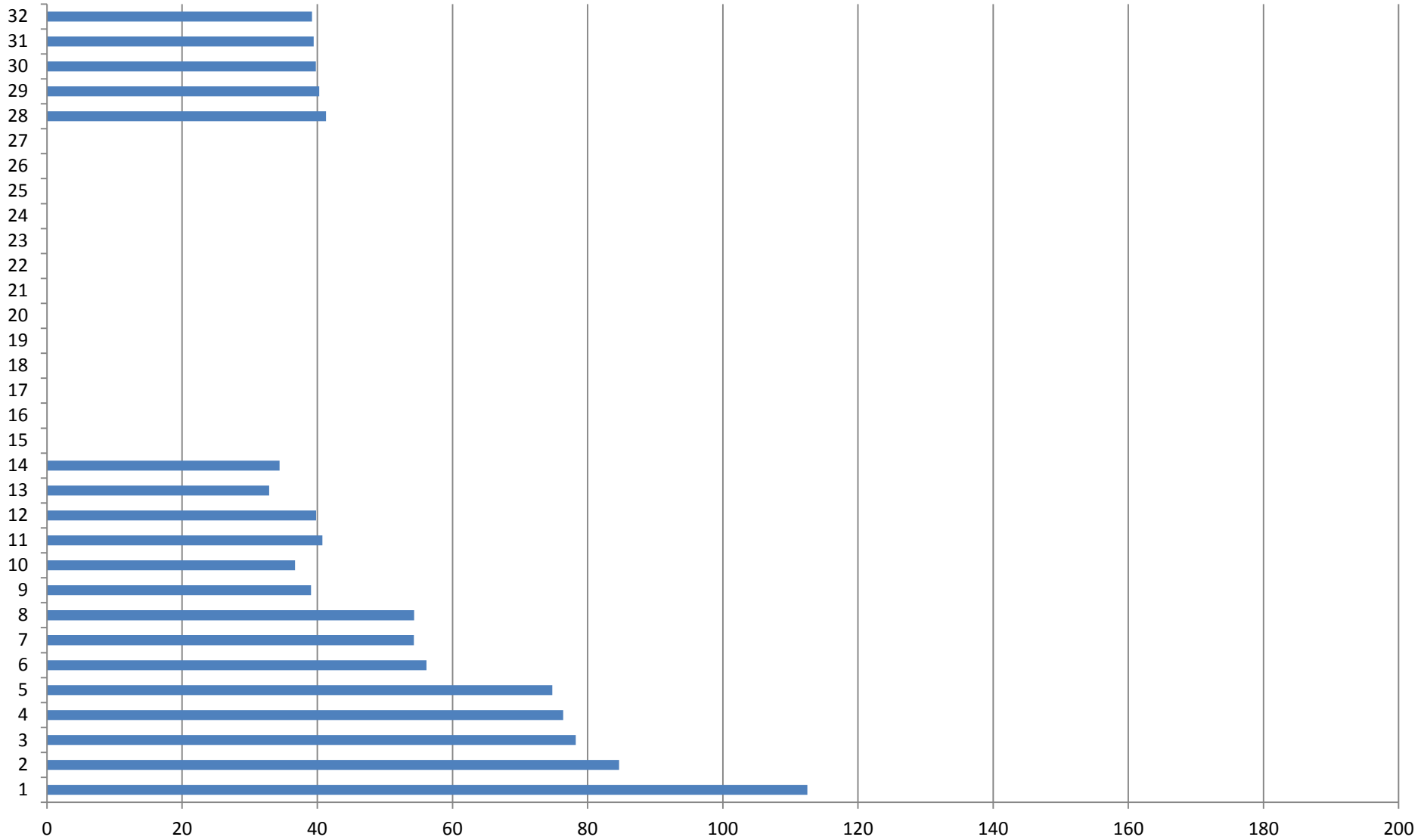
2013 Best Novel Point Totals – Round 13



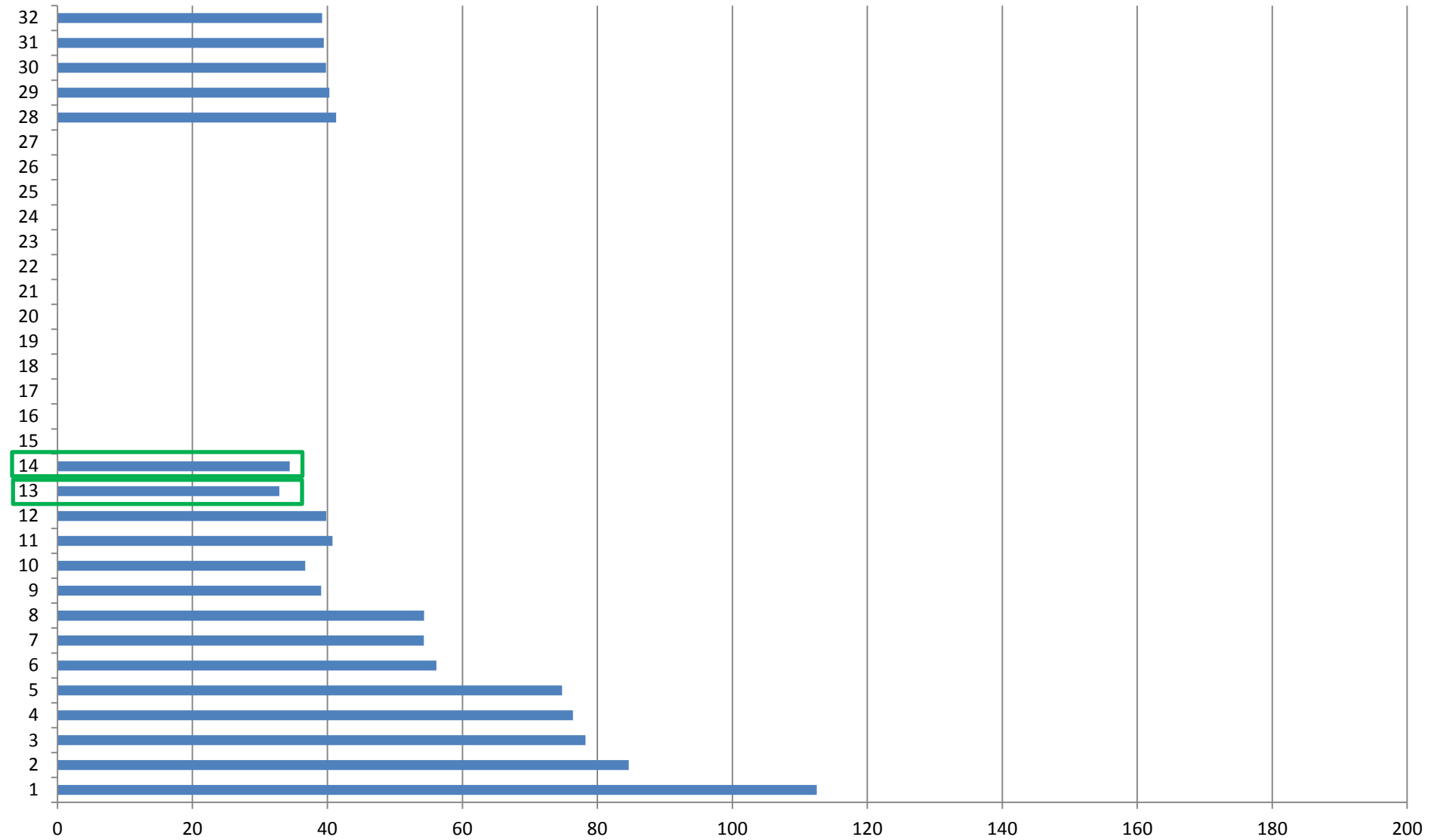
2013 Best Novel Point Totals – Round 13



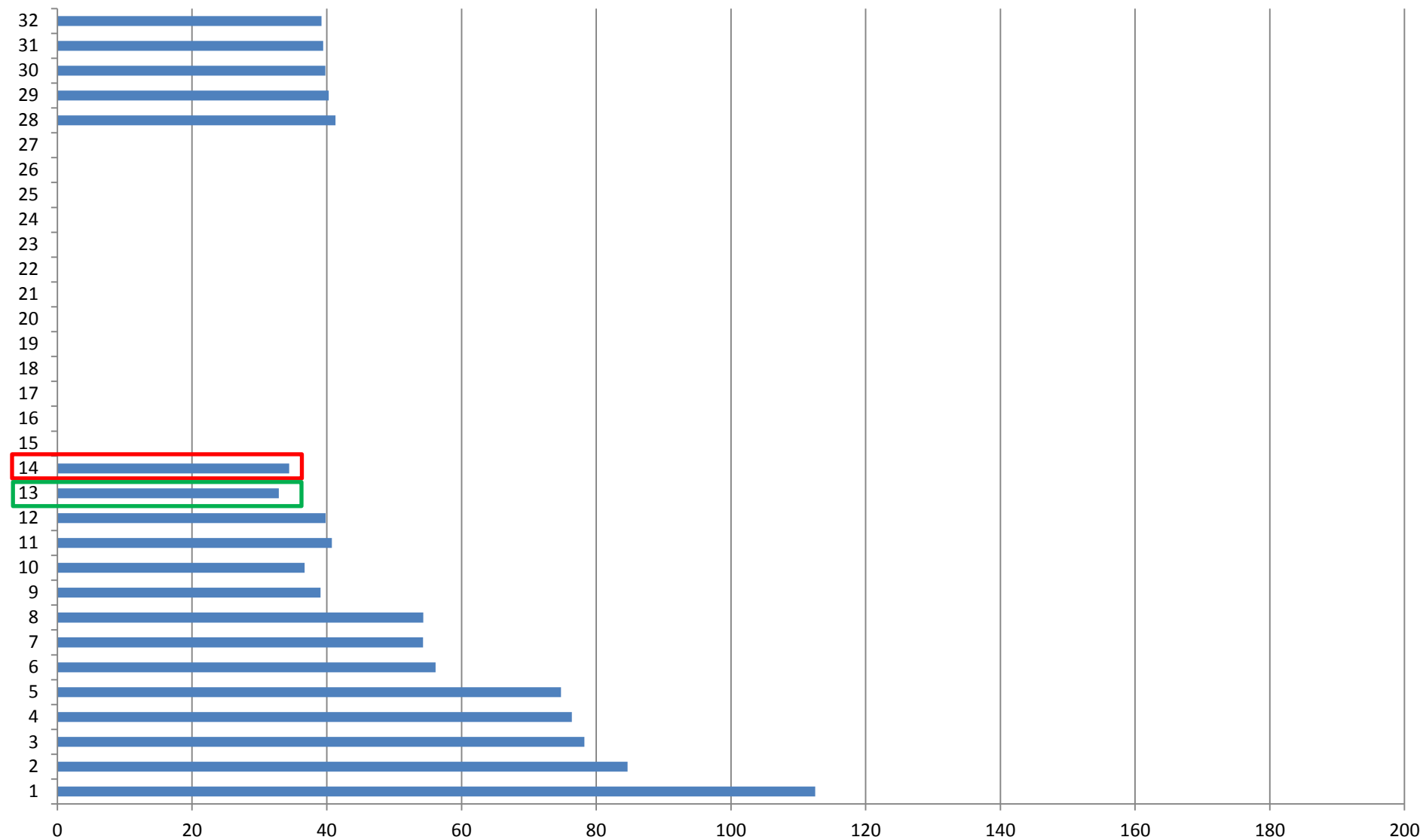
2013 Best Novel Point Totals – Round 14



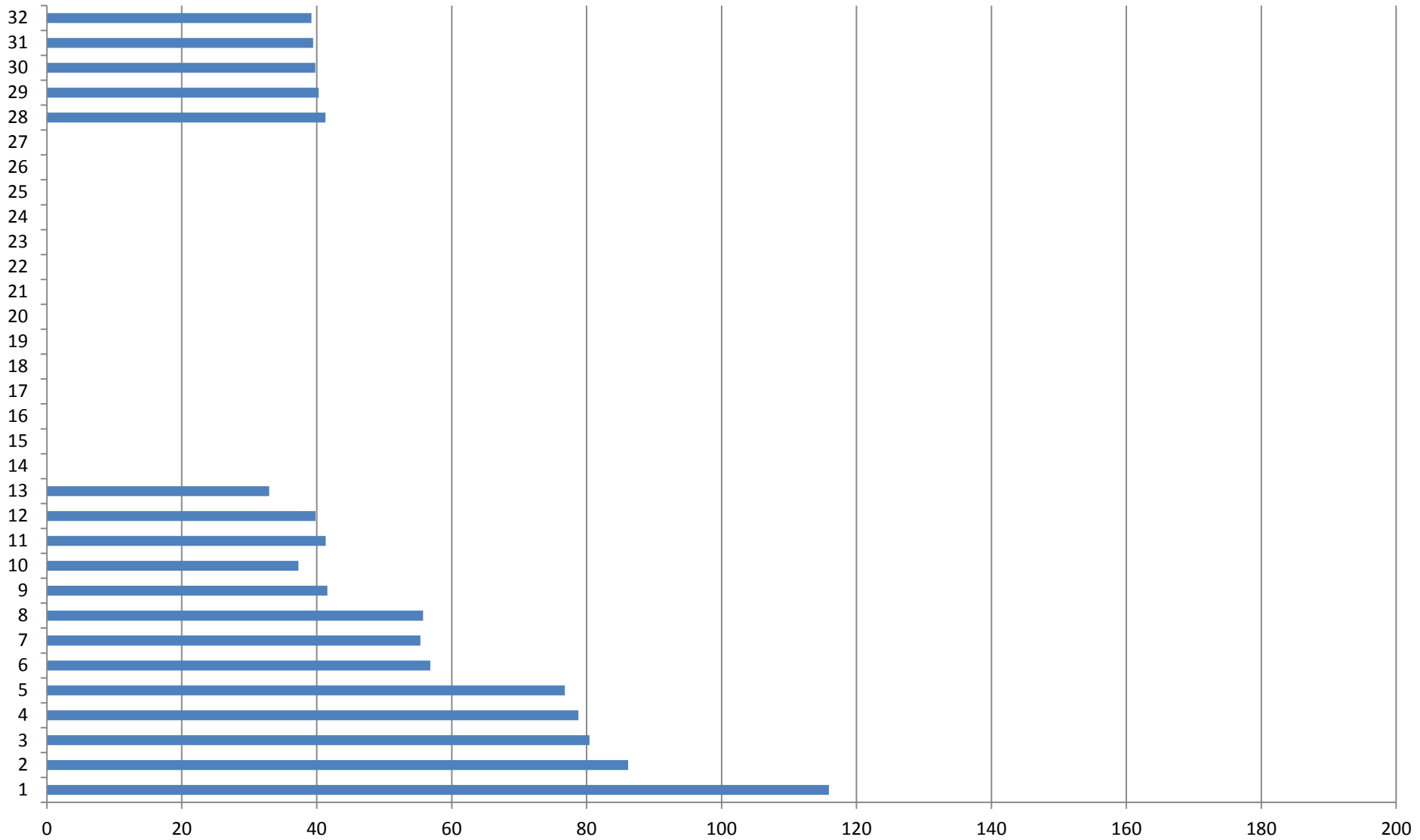
2013 Best Novel Point Totals – Round 14



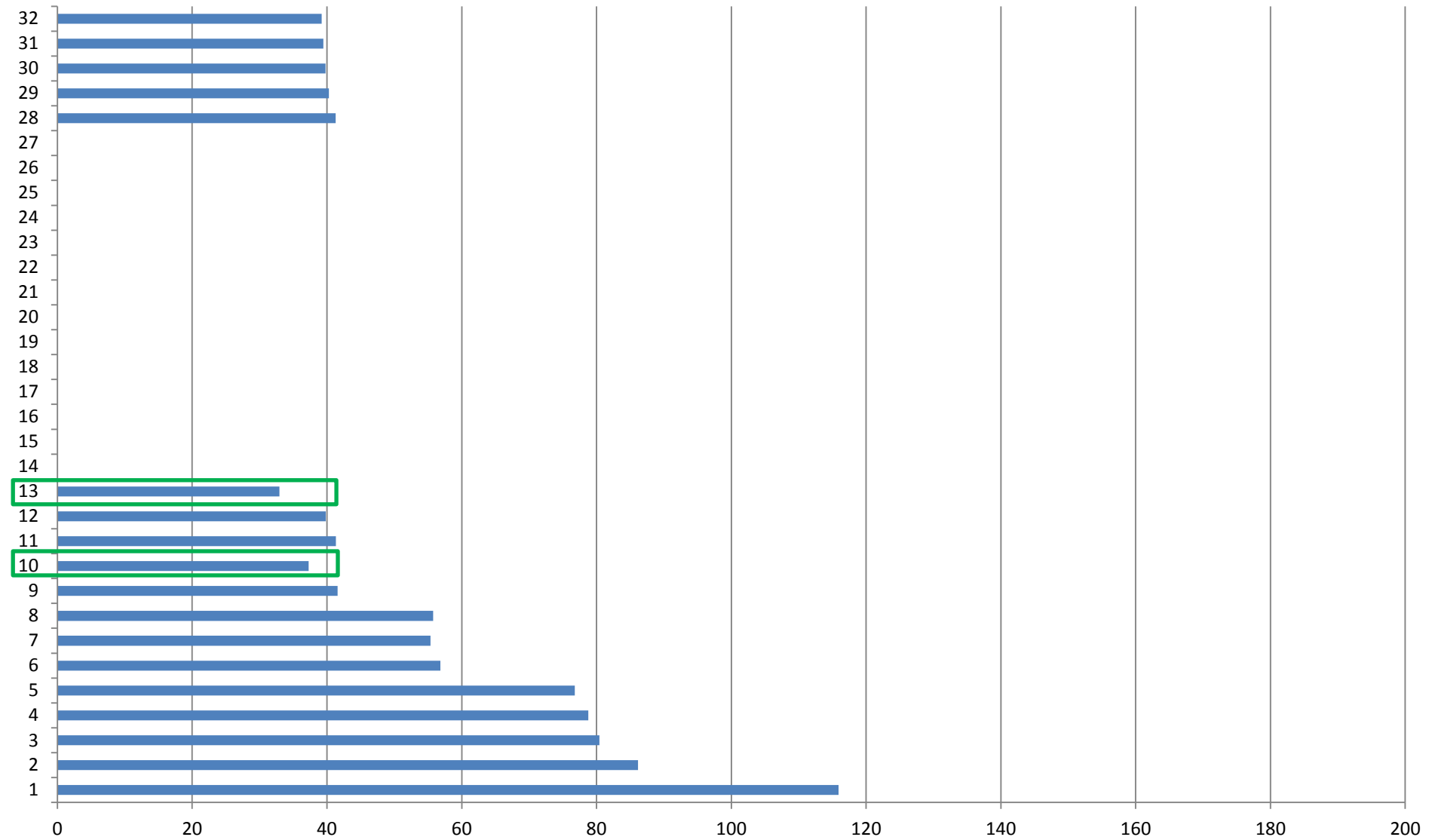
2013 Best Novel Point Totals – Round 14



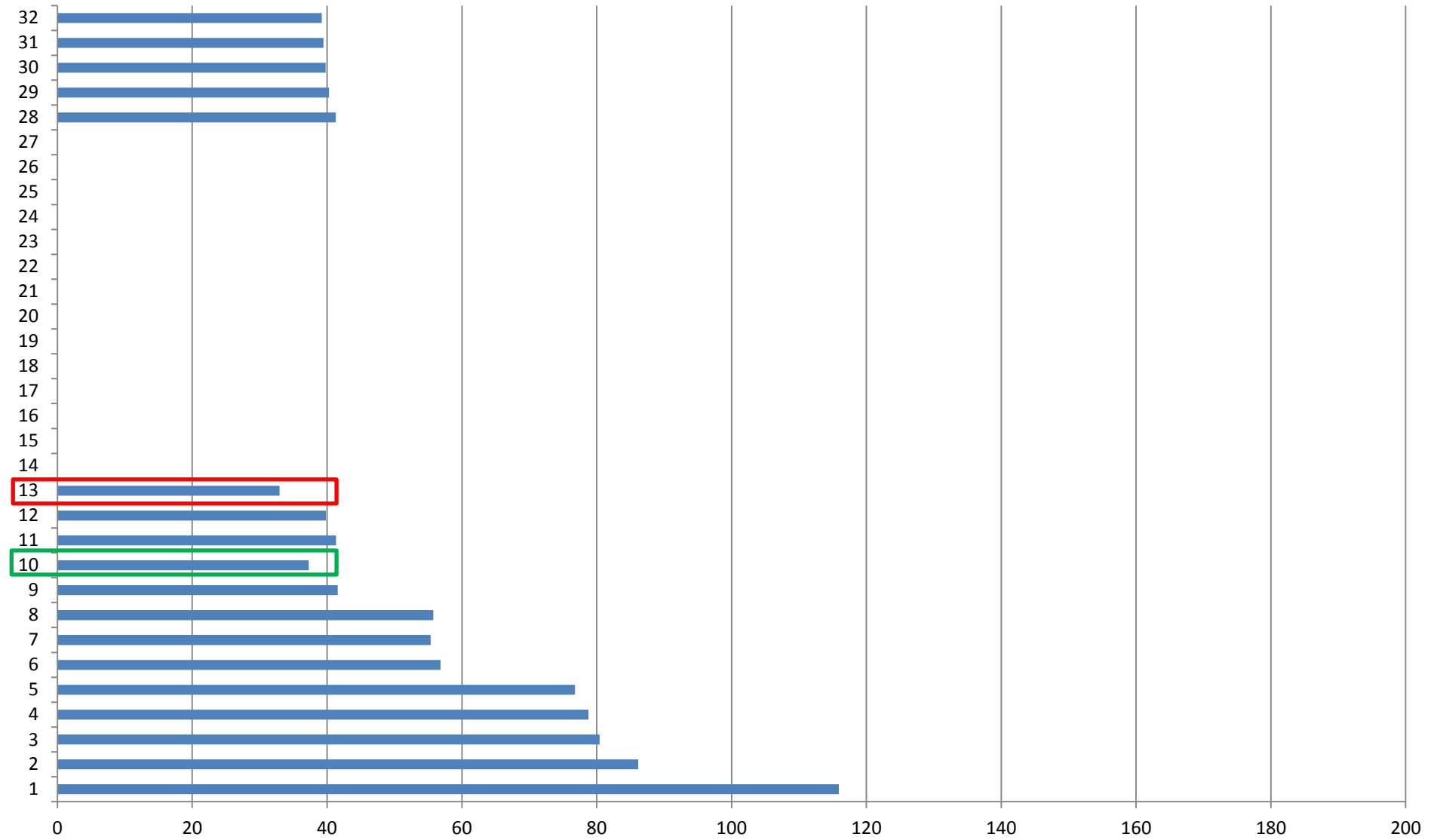
2013 Best Novel Point Totals – Round 15



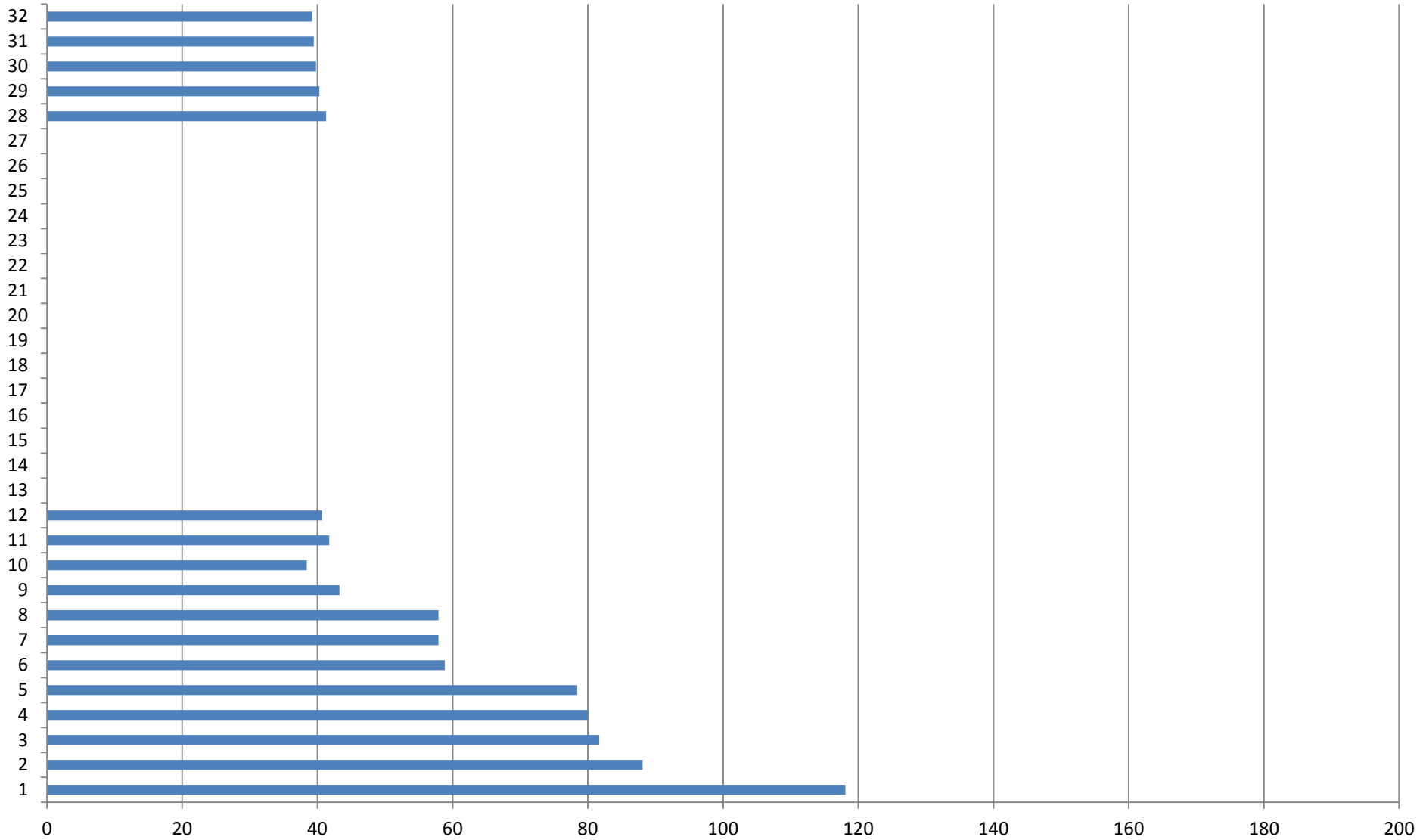
2013 Best Novel Point Totals – Round 15



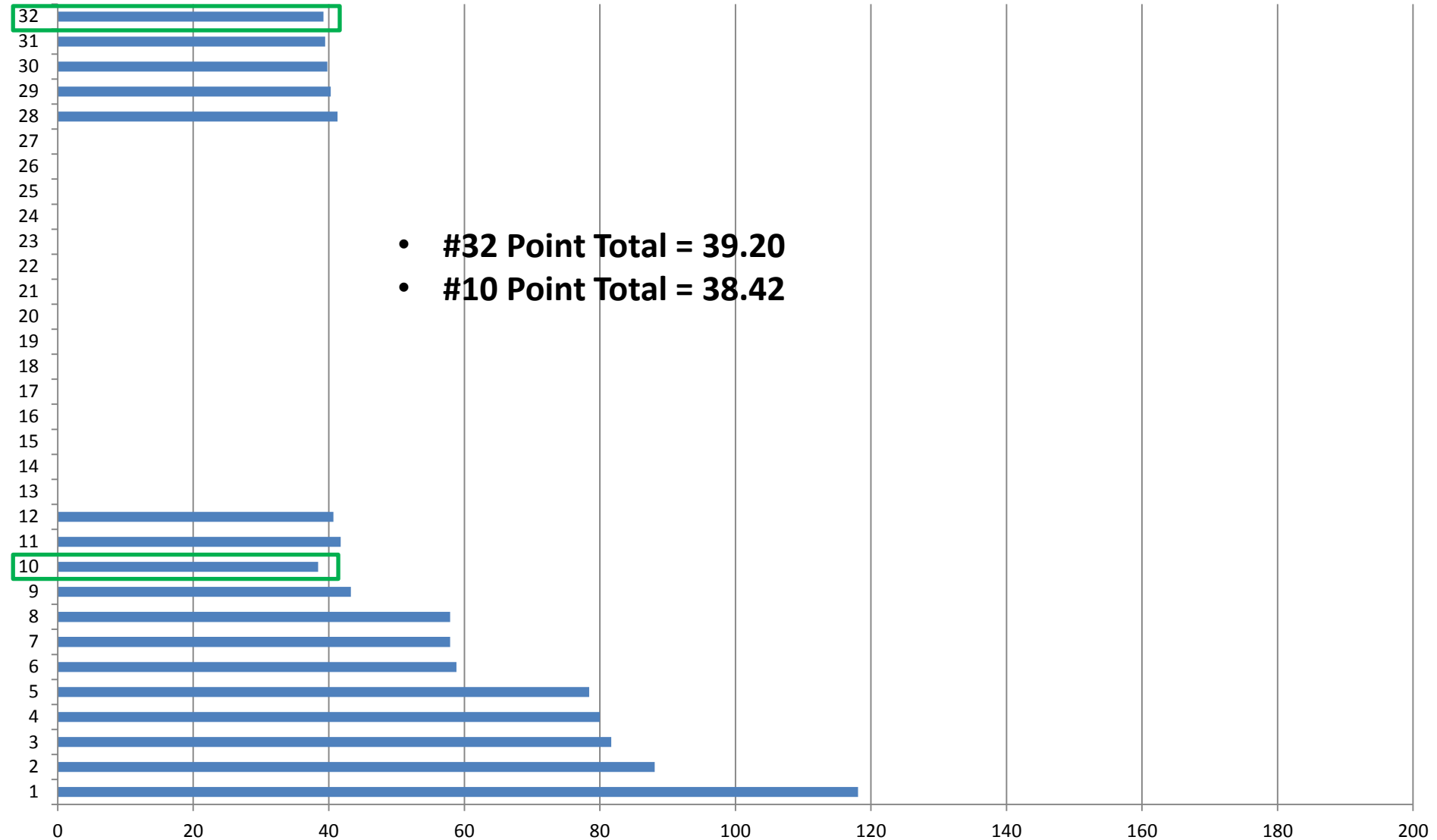
2013 Best Novel Point Totals – Round 15



2013 Best Novel Point Totals – Round 16

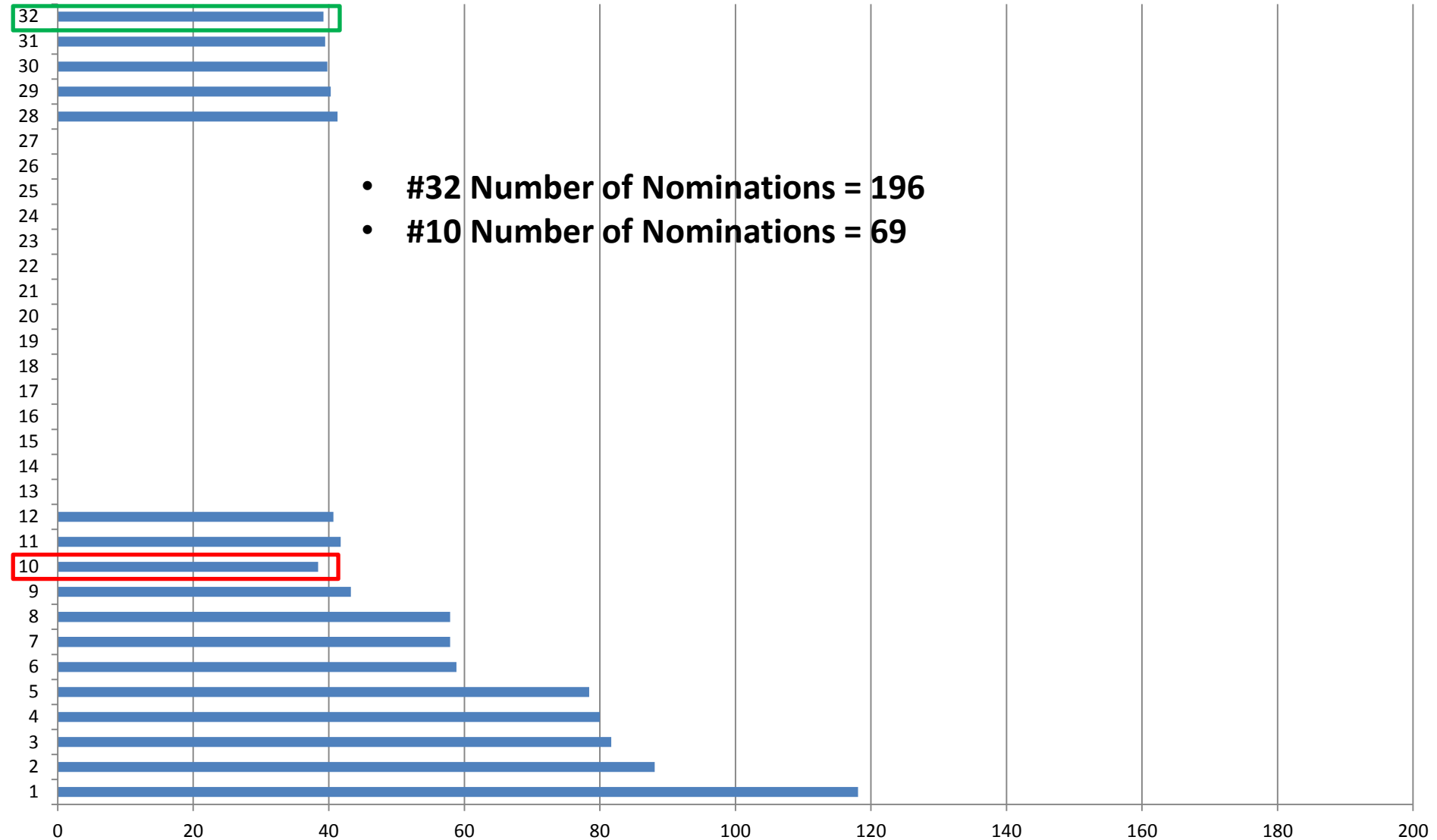


Selection Phase: Lowest Point Totals



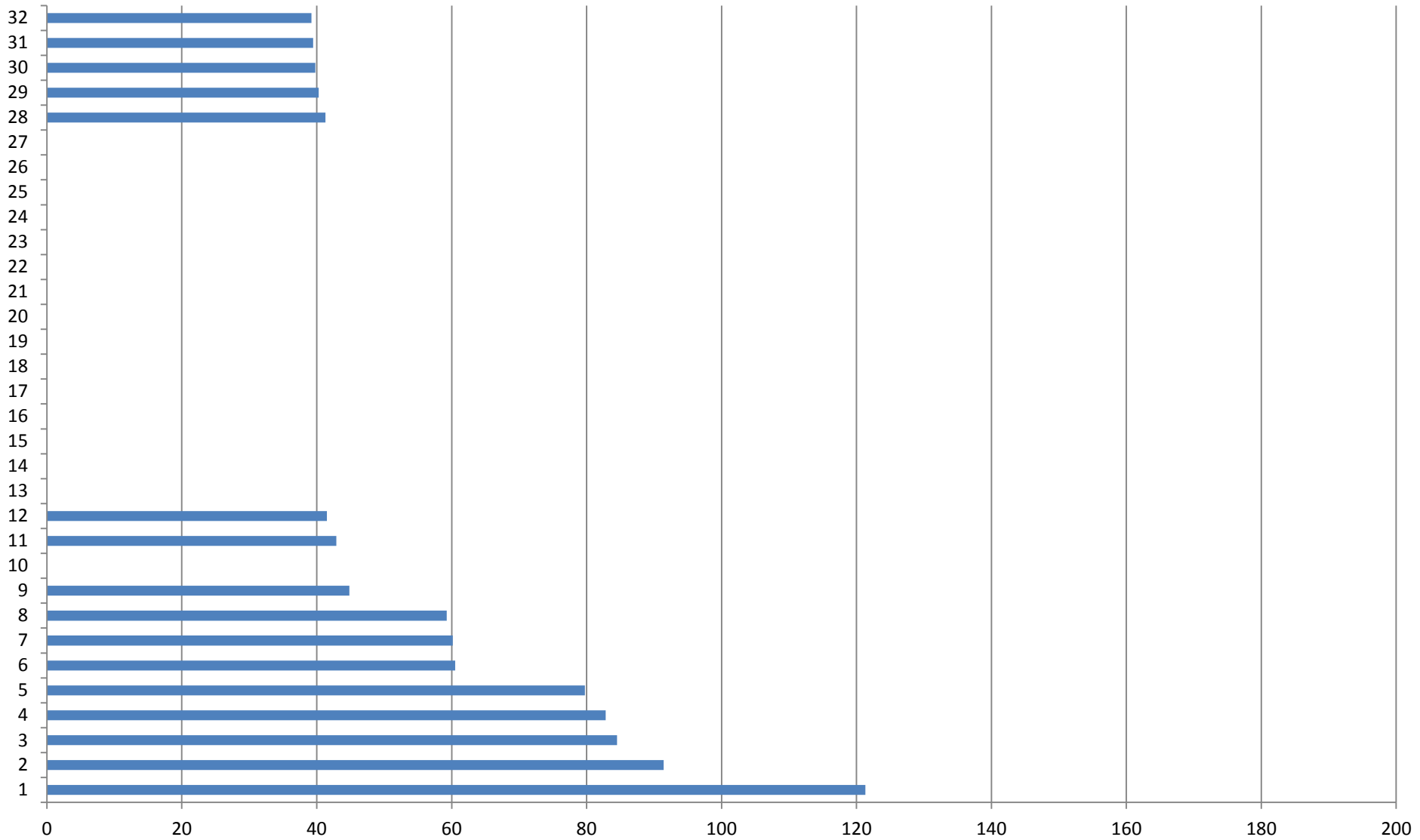
**#10 and #32 are eligible for elimination;
this is the first time a slate work has been eligible**

Elimination Phase: Fewest Nominations

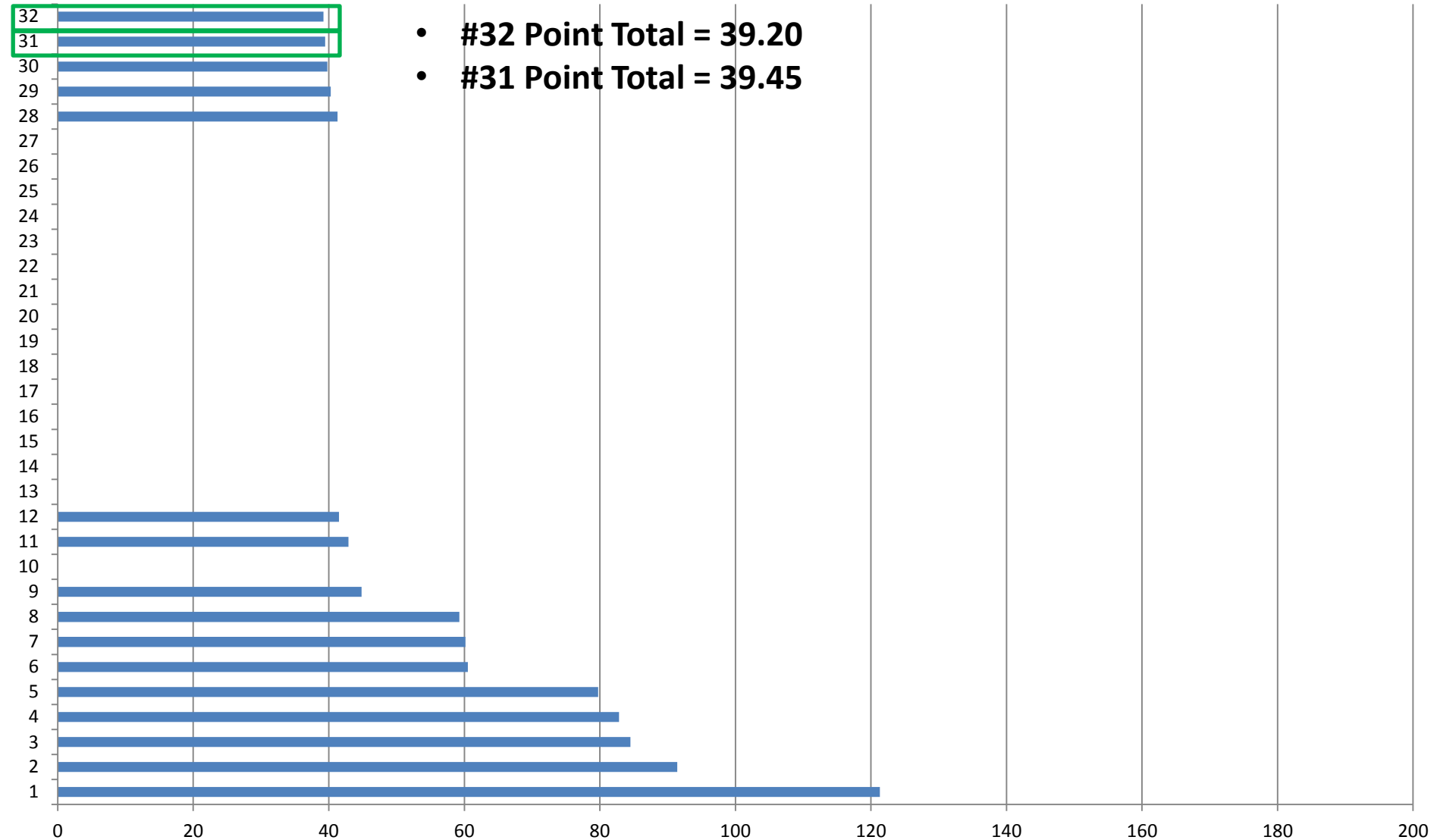


**#10 has fewer nominations, so the slate work survives
(it's not really close)**

2013 Best Novel Point Totals – Round 17

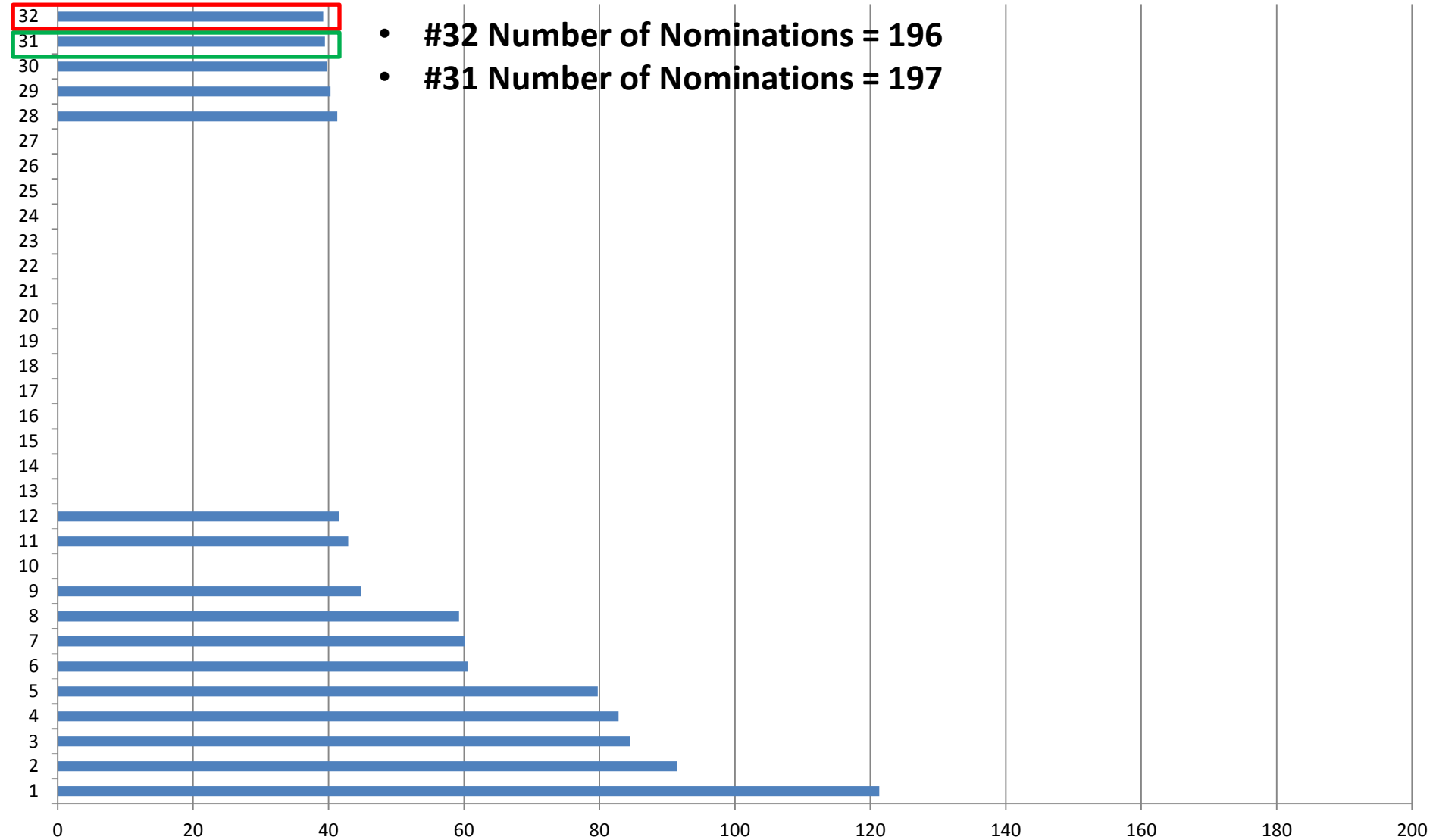


Selection Phase: Lowest Point Totals



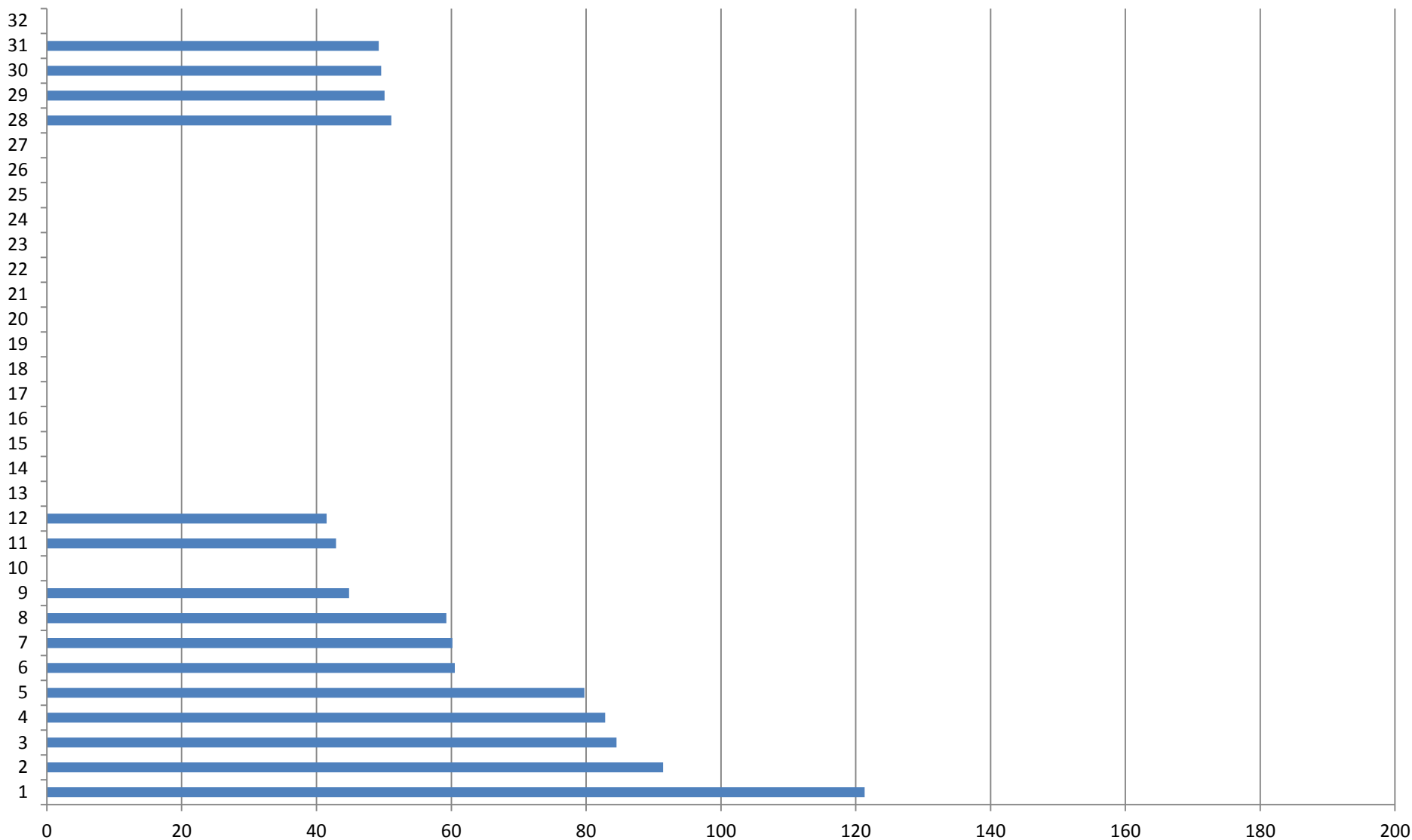
Slate works tend to eliminate each other; this means that their points don't go up gradually like other works

Elimination Phase: Fewest Nominations



#32 has fewer nominations (barely), so is eliminated

2013 Best Novel Point Totals – Round 18



Notice that the remaining slate works got a big jump in points...

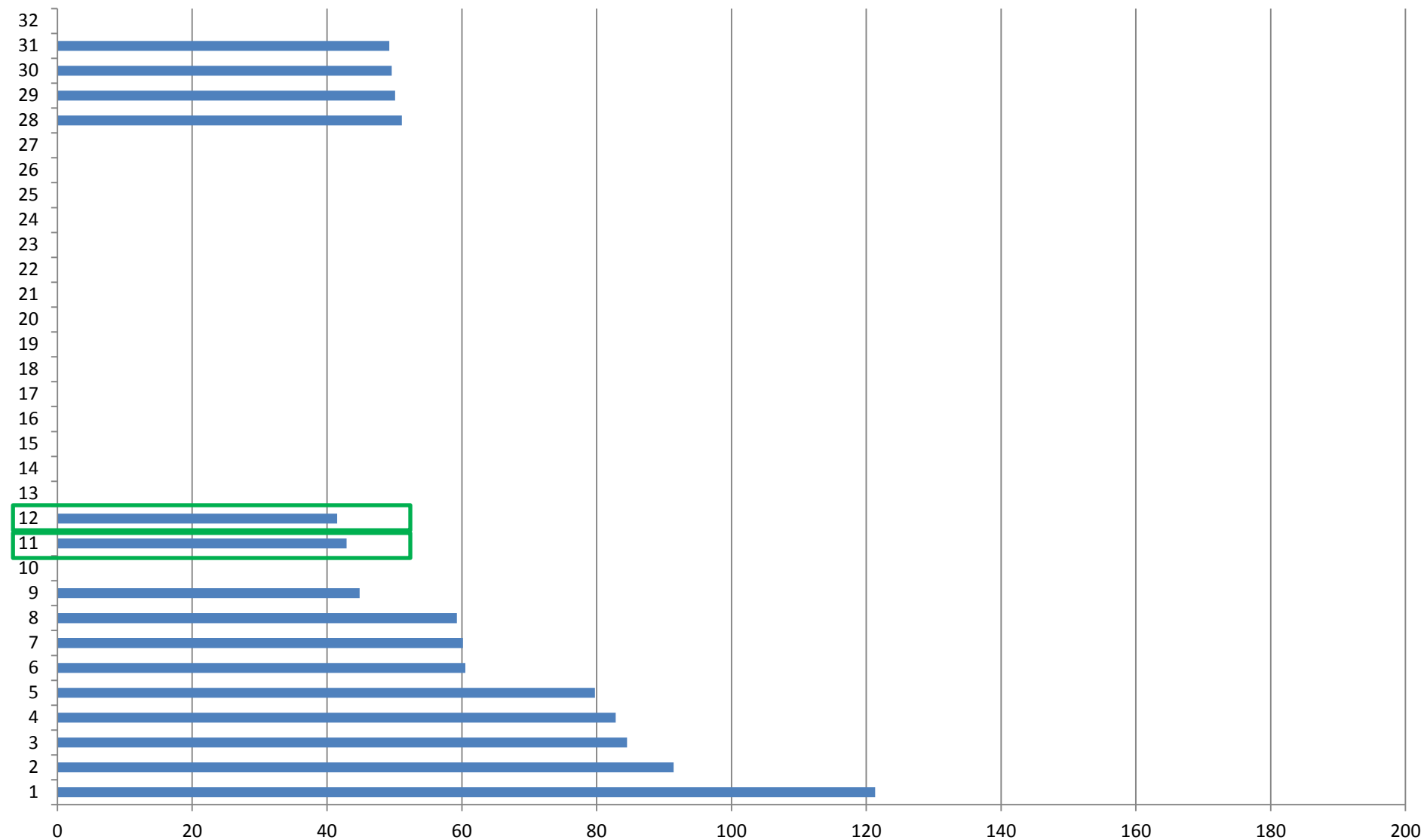
Slates and Eliminations

- In general, slates will have almost the same number of nominations (and the same number of points) for all of their members
- This means that, in general, they compete against each other.
- The least-nominated slate work is eliminated by the next least-nominated work, and so on.

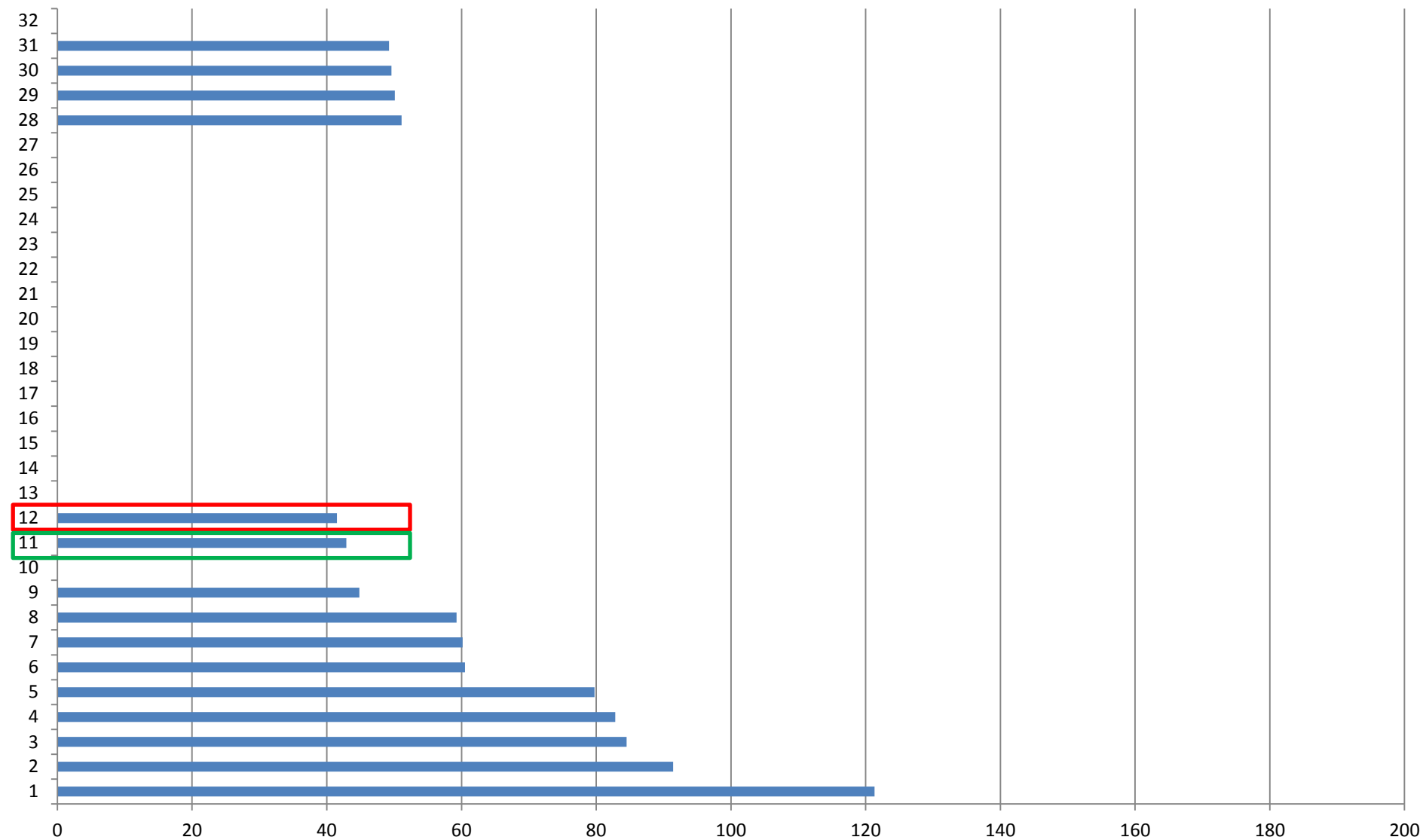
Slates and Eliminations

- What if all members of the slate have *exactly* the same ballots?
- We call this a slate with “perfect discipline.”
- Humans being what they are, it’s vanishingly difficult to do.
- **Due to the tie breaker rules, a slate with perfect discipline will eliminate *all* nominees on the slate in one round!**

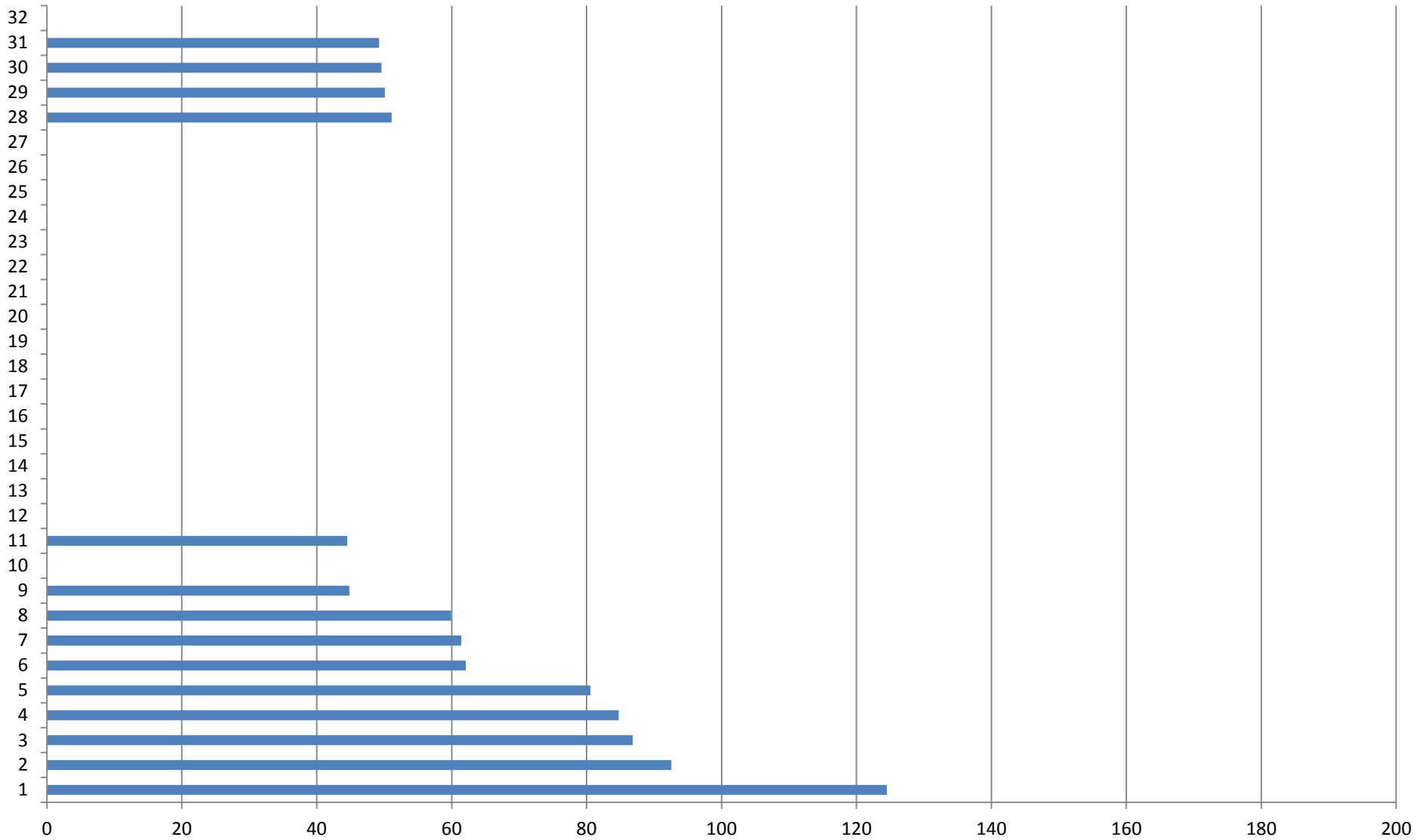
2013 Best Novel Point Totals – Round 18



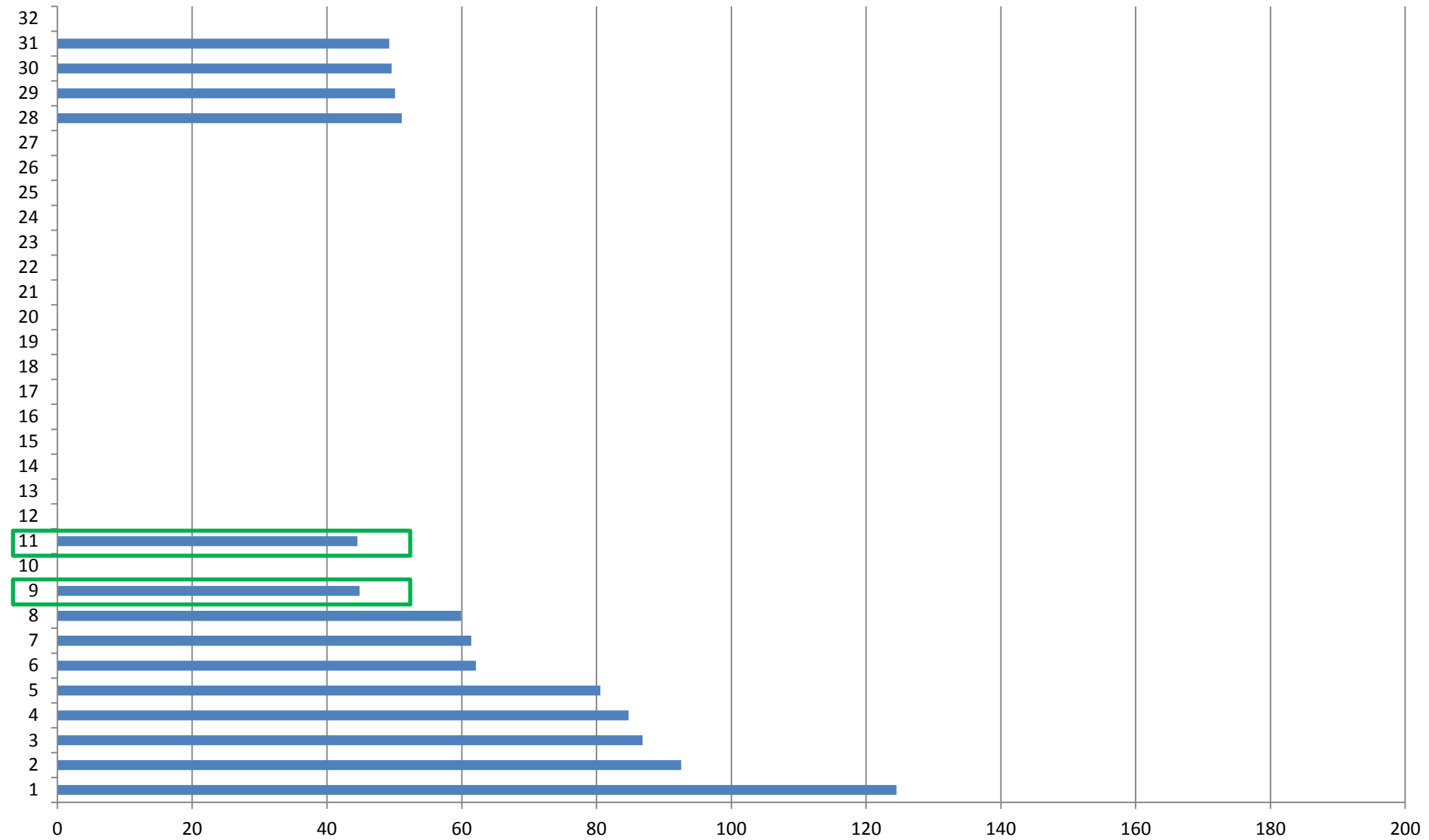
2013 Best Novel Point Totals – Round 18



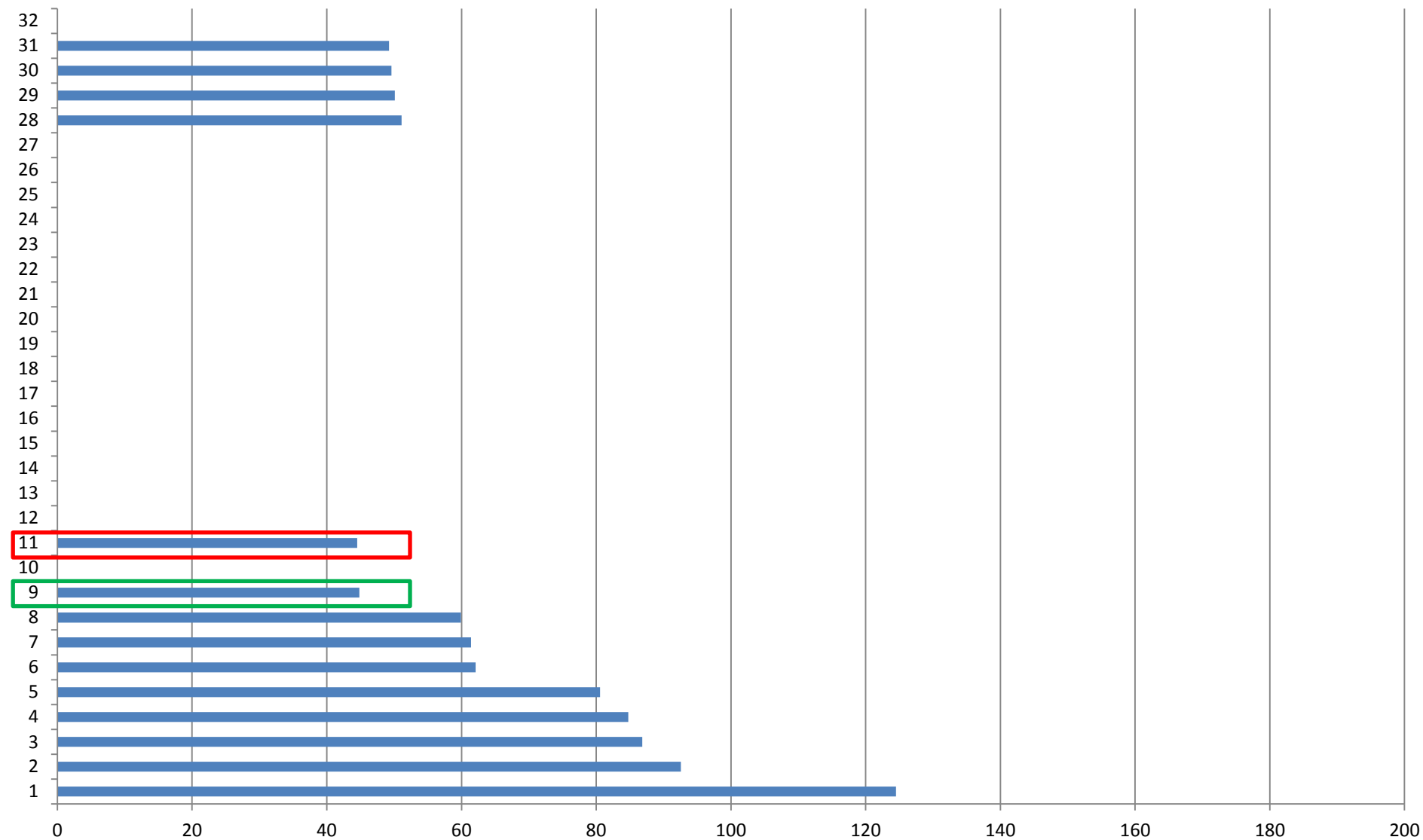
2013 Best Novel Point Totals – Round 19



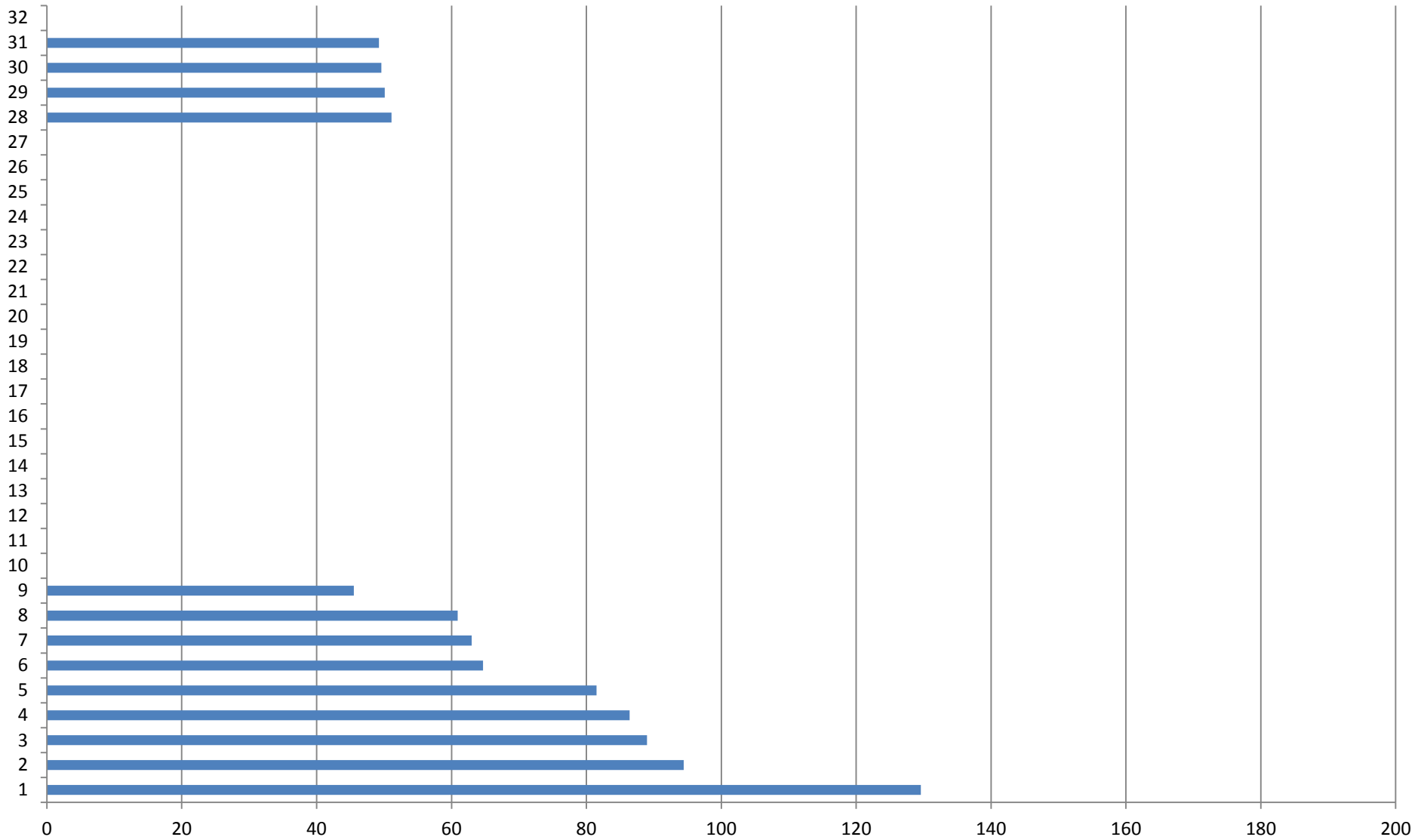
2013 Best Novel Point Totals – Round 19



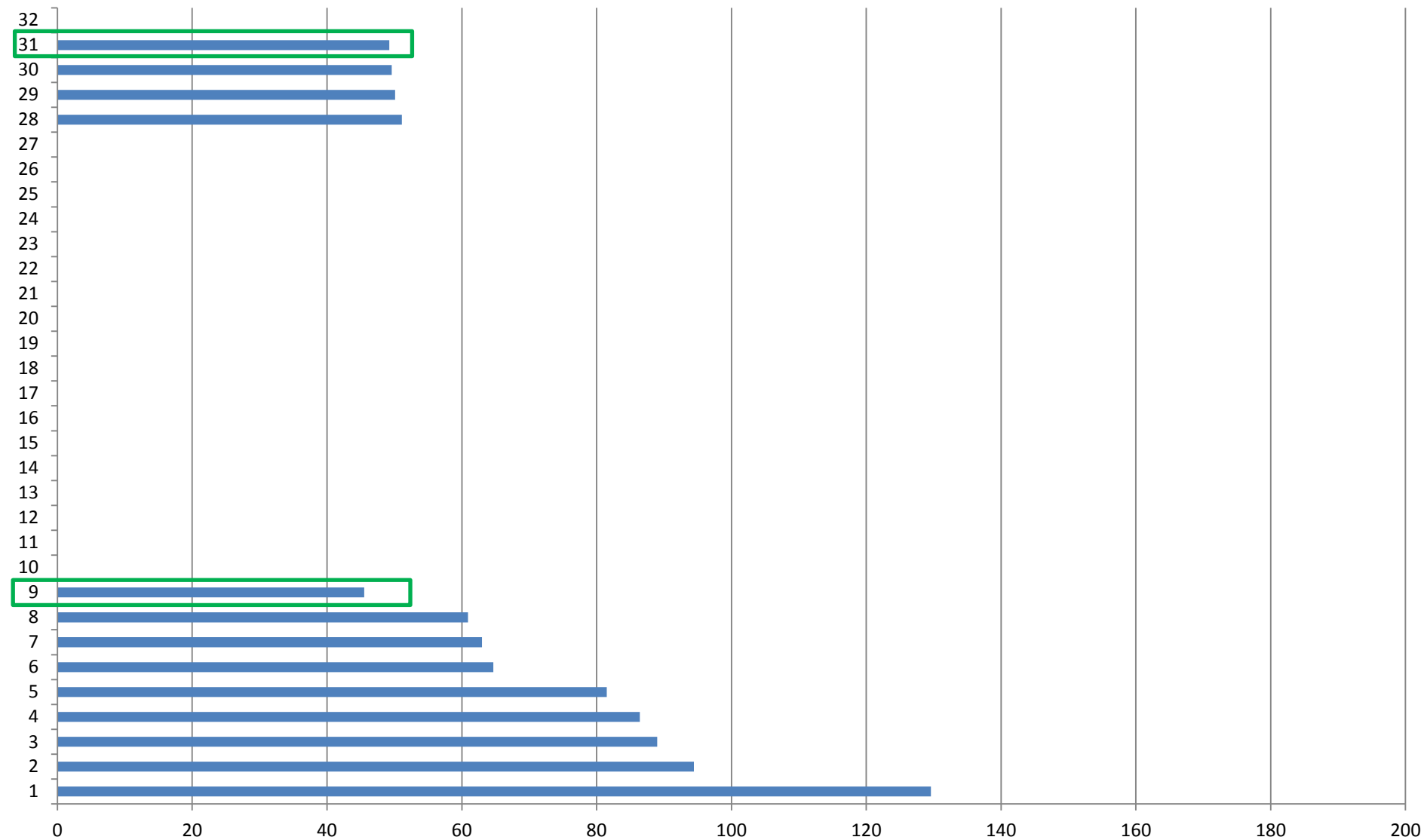
2013 Best Novel Point Totals – Round 19



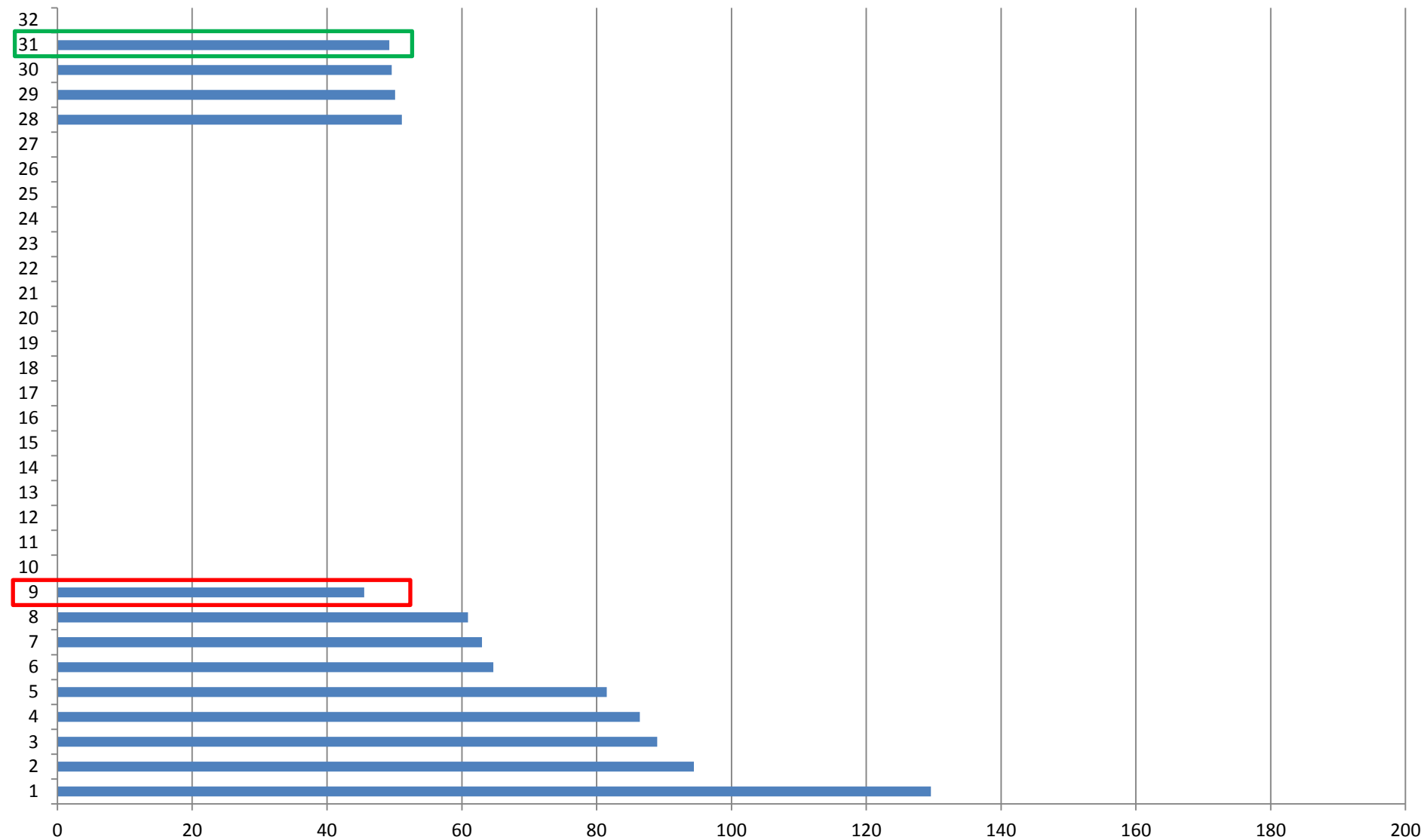
2013 Best Novel Point Totals – Round 20



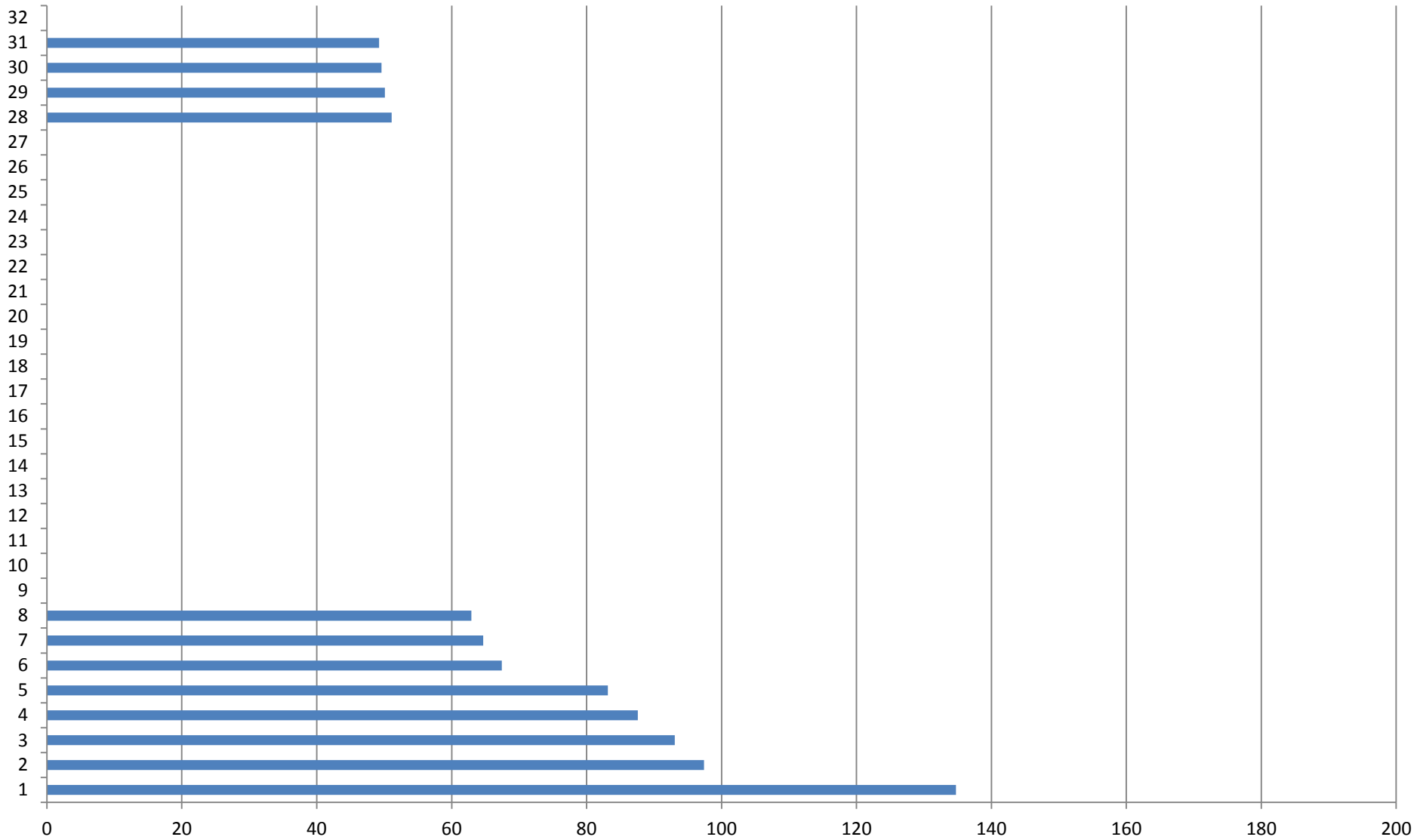
2013 Best Novel Point Totals – Round 20



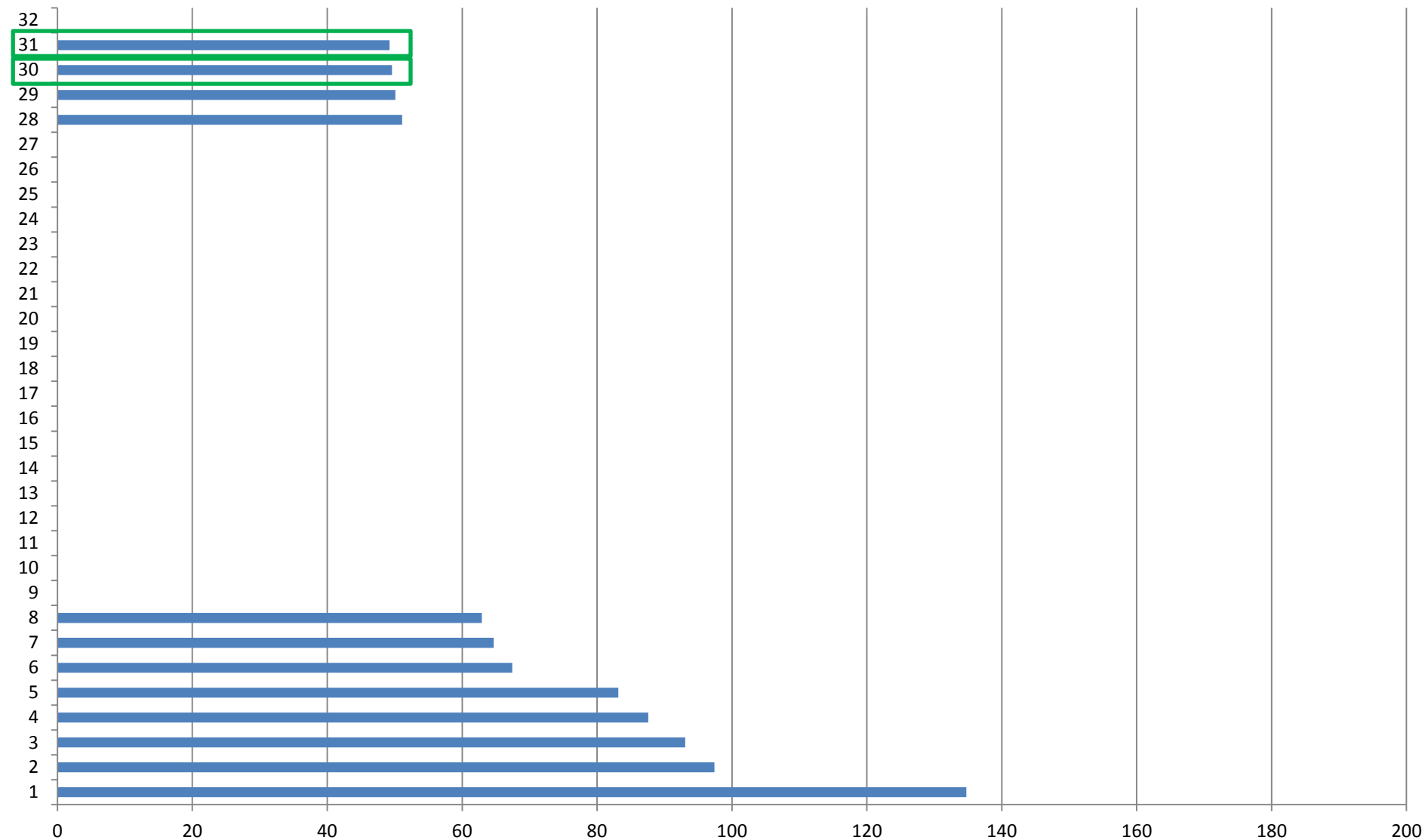
2013 Best Novel Point Totals – Round 20



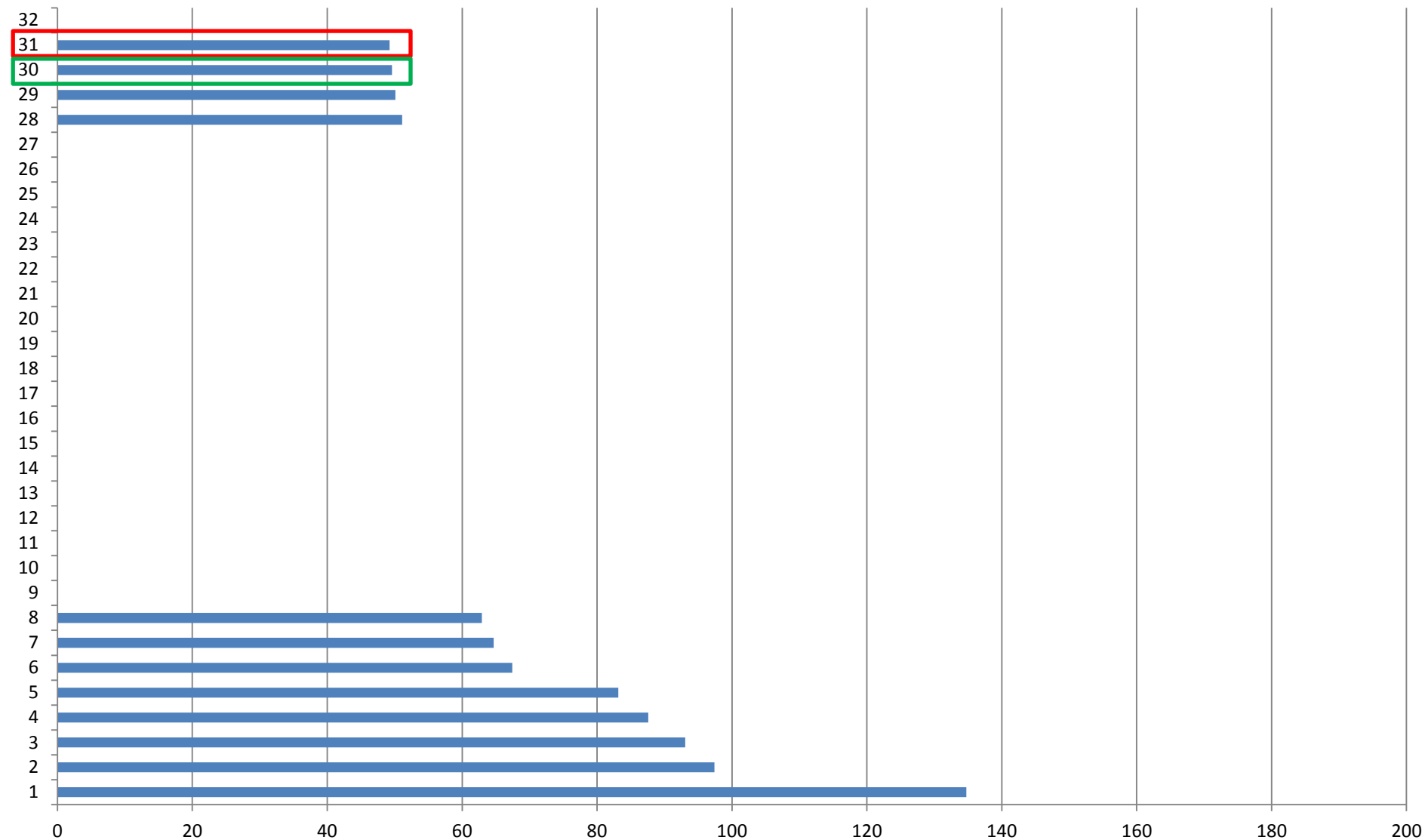
2013 Best Novel Point Totals – Round 21



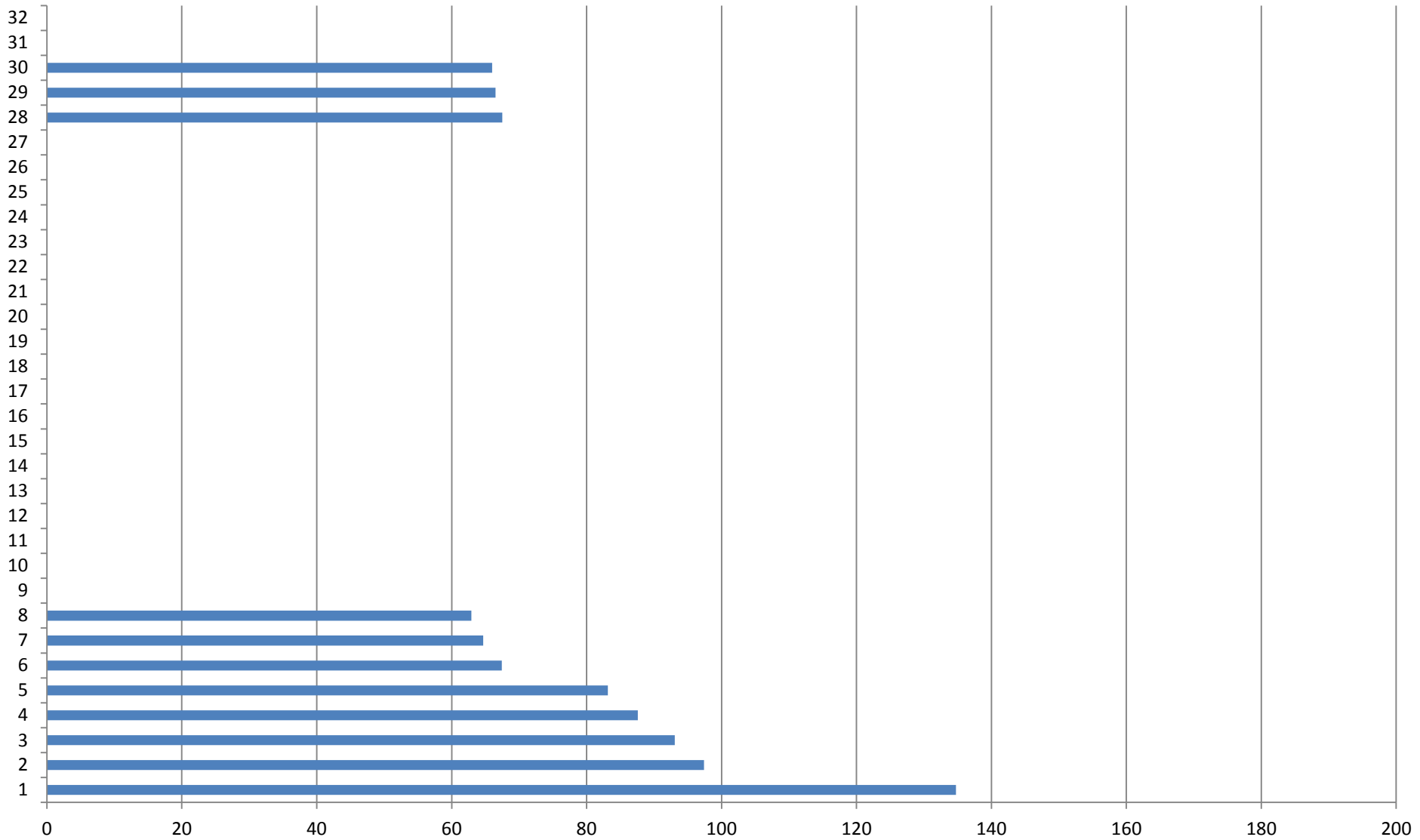
2013 Best Novel Point Totals – Round 21



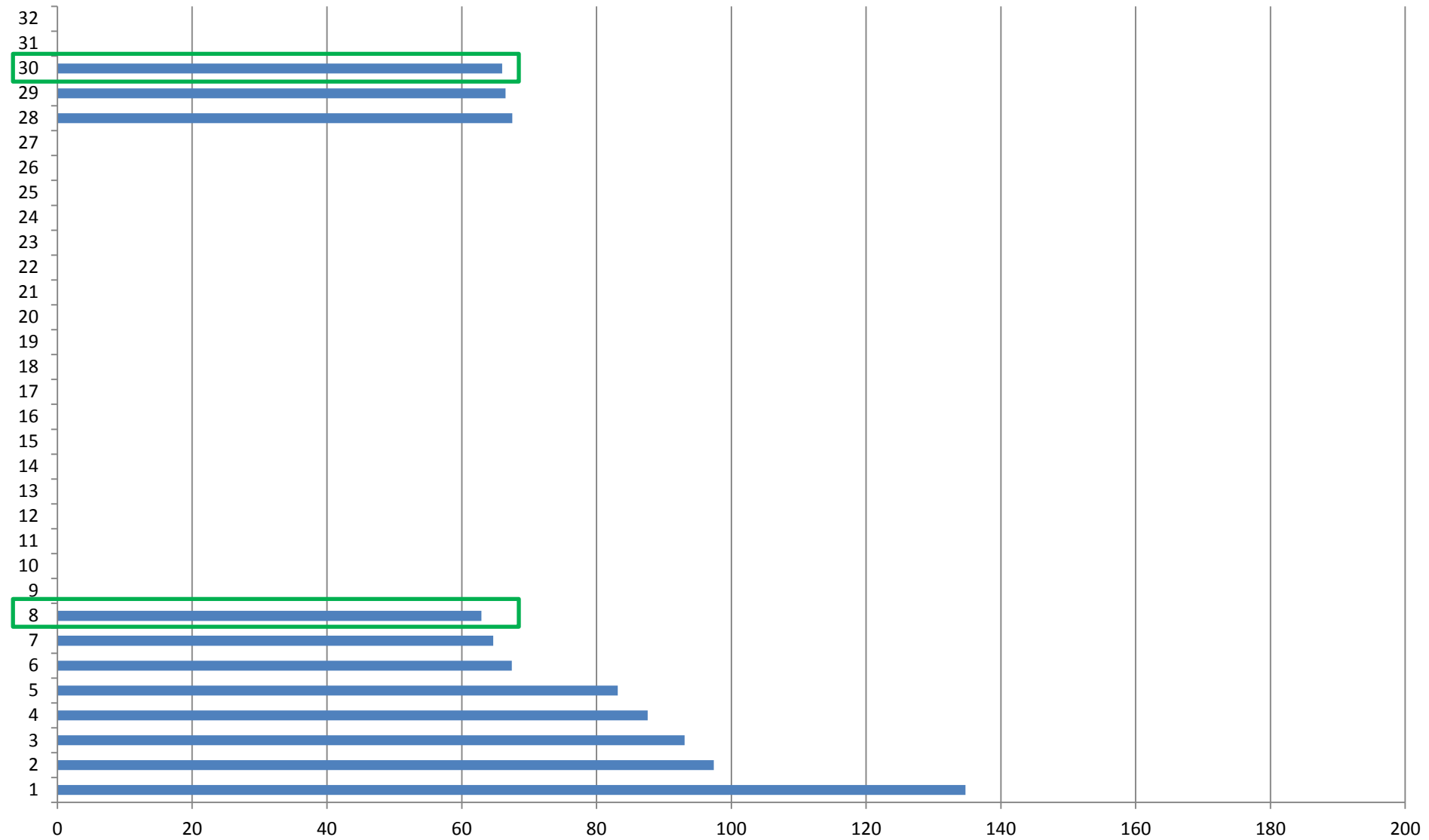
2013 Best Novel Point Totals – Round 21



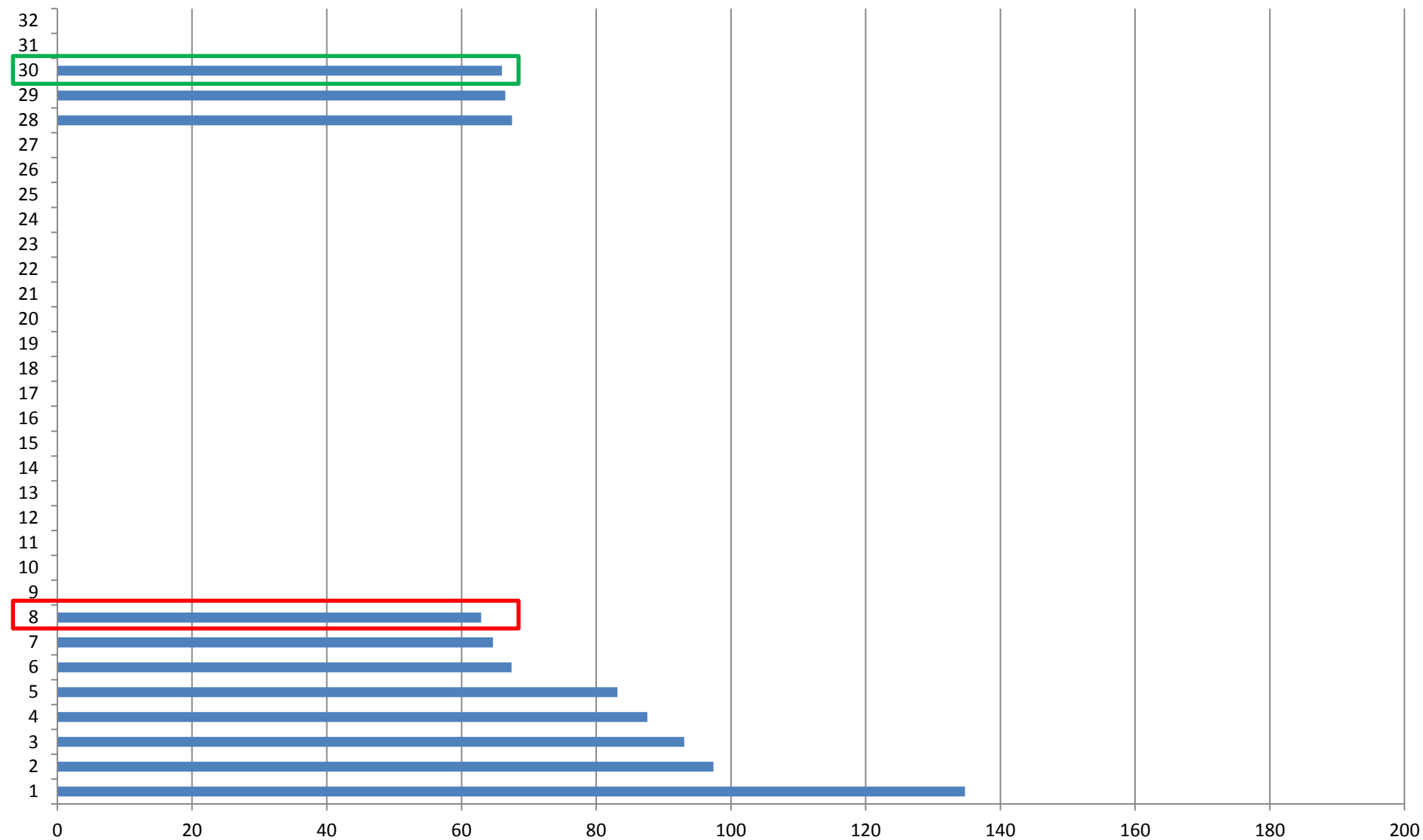
2013 Best Novel Point Totals – Round 22



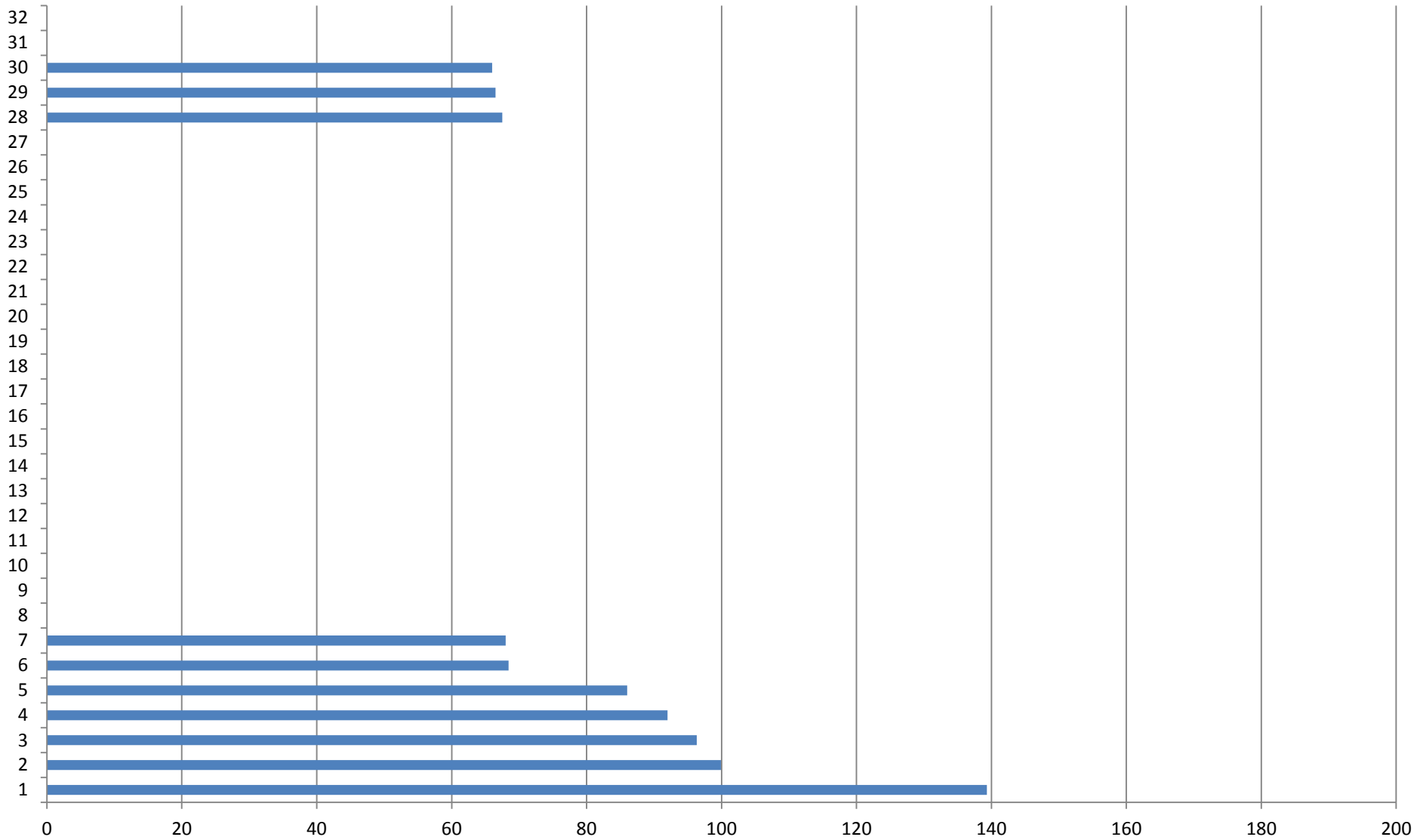
2013 Best Novel Point Totals – Round 22



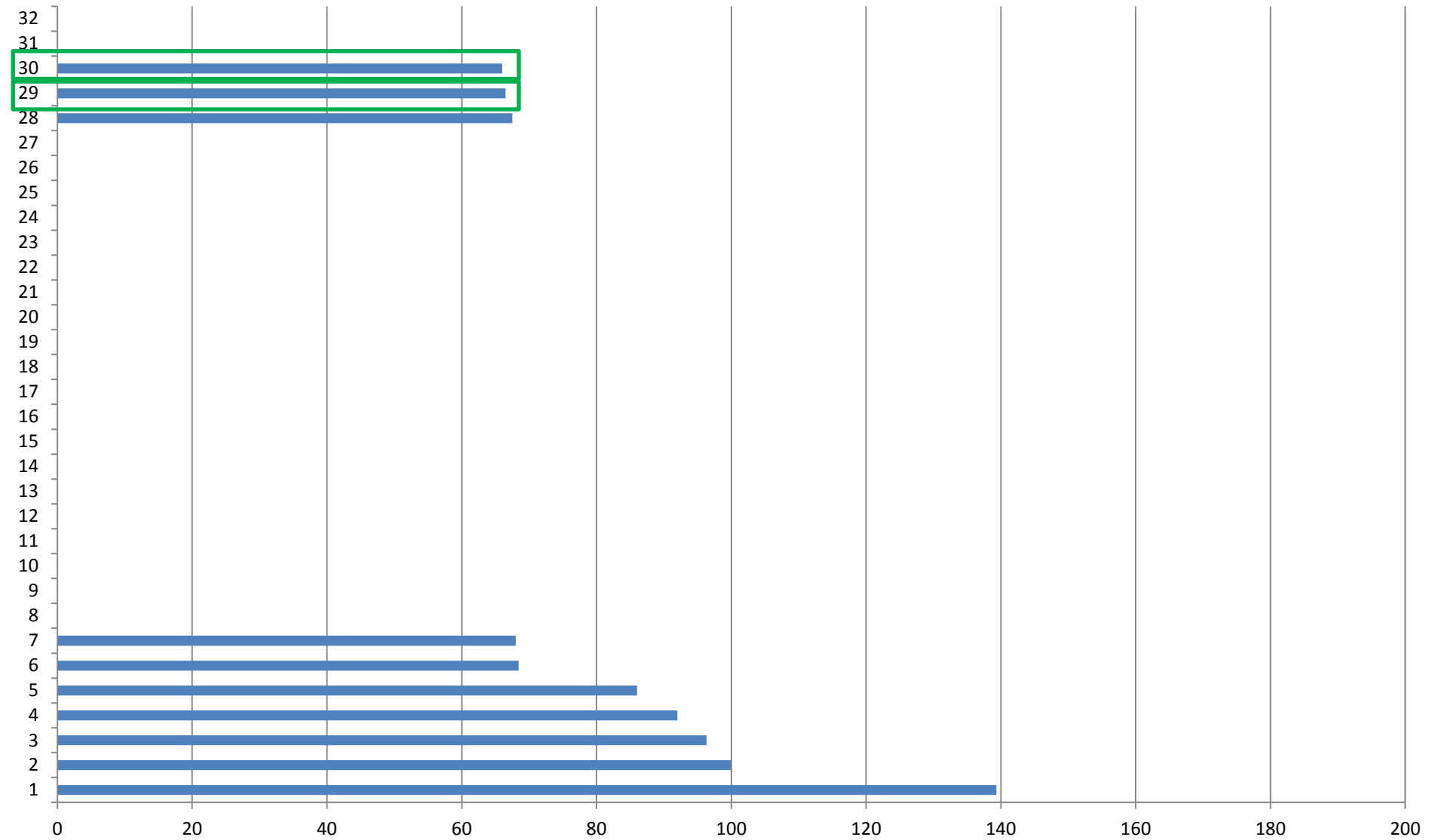
2013 Best Novel Point Totals – Round 22



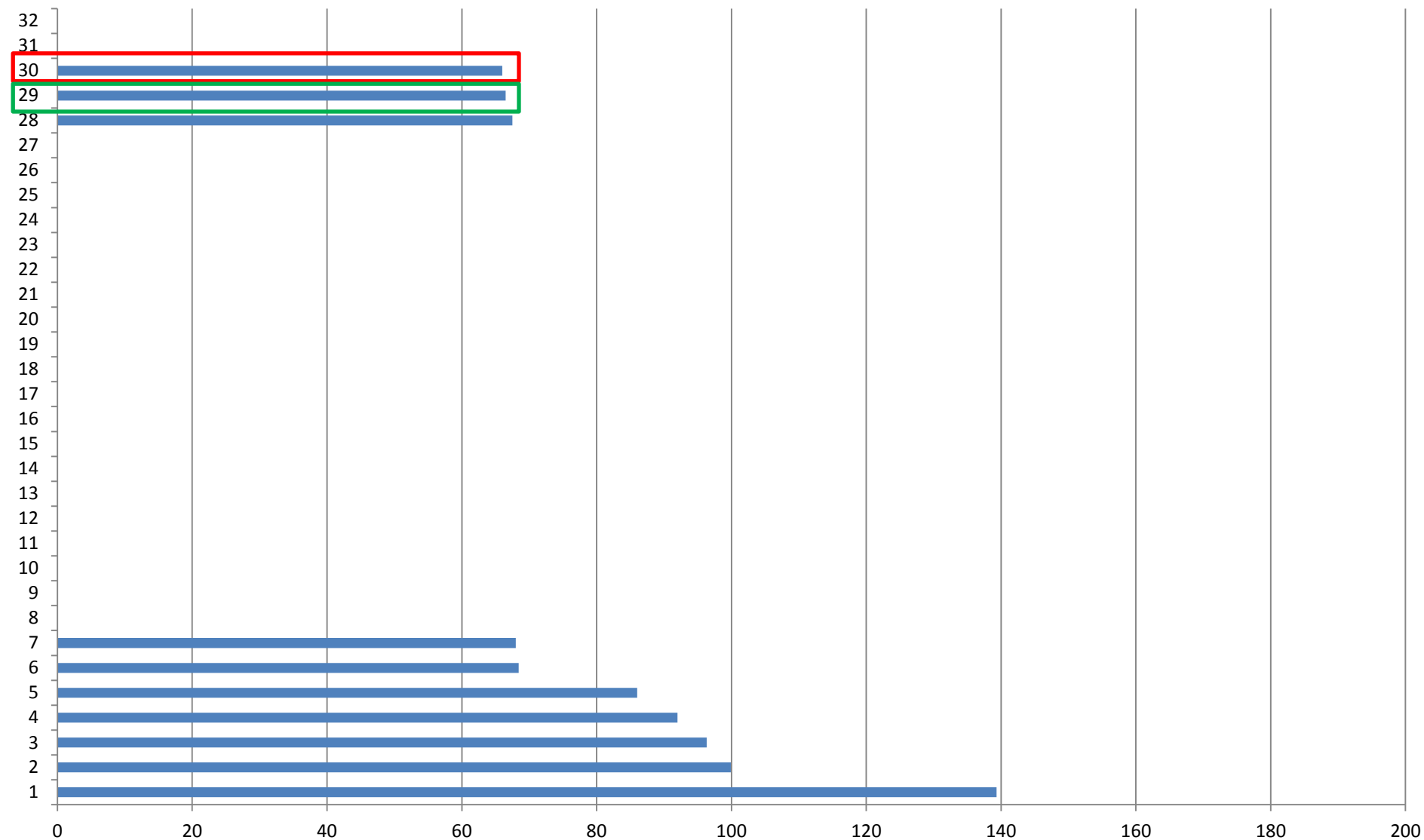
2013 Best Novel Point Totals – Round 23



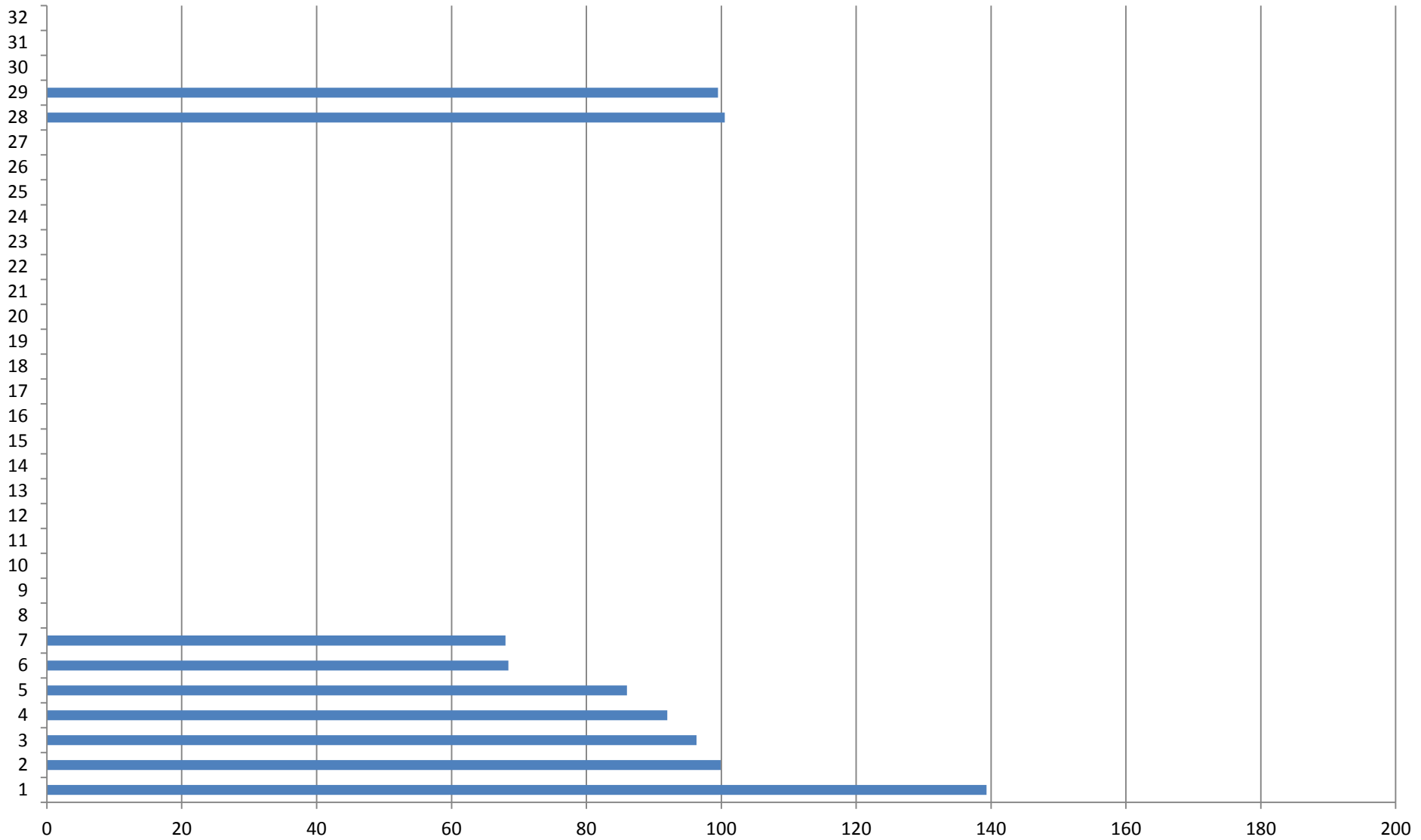
2013 Best Novel Point Totals – Round 23



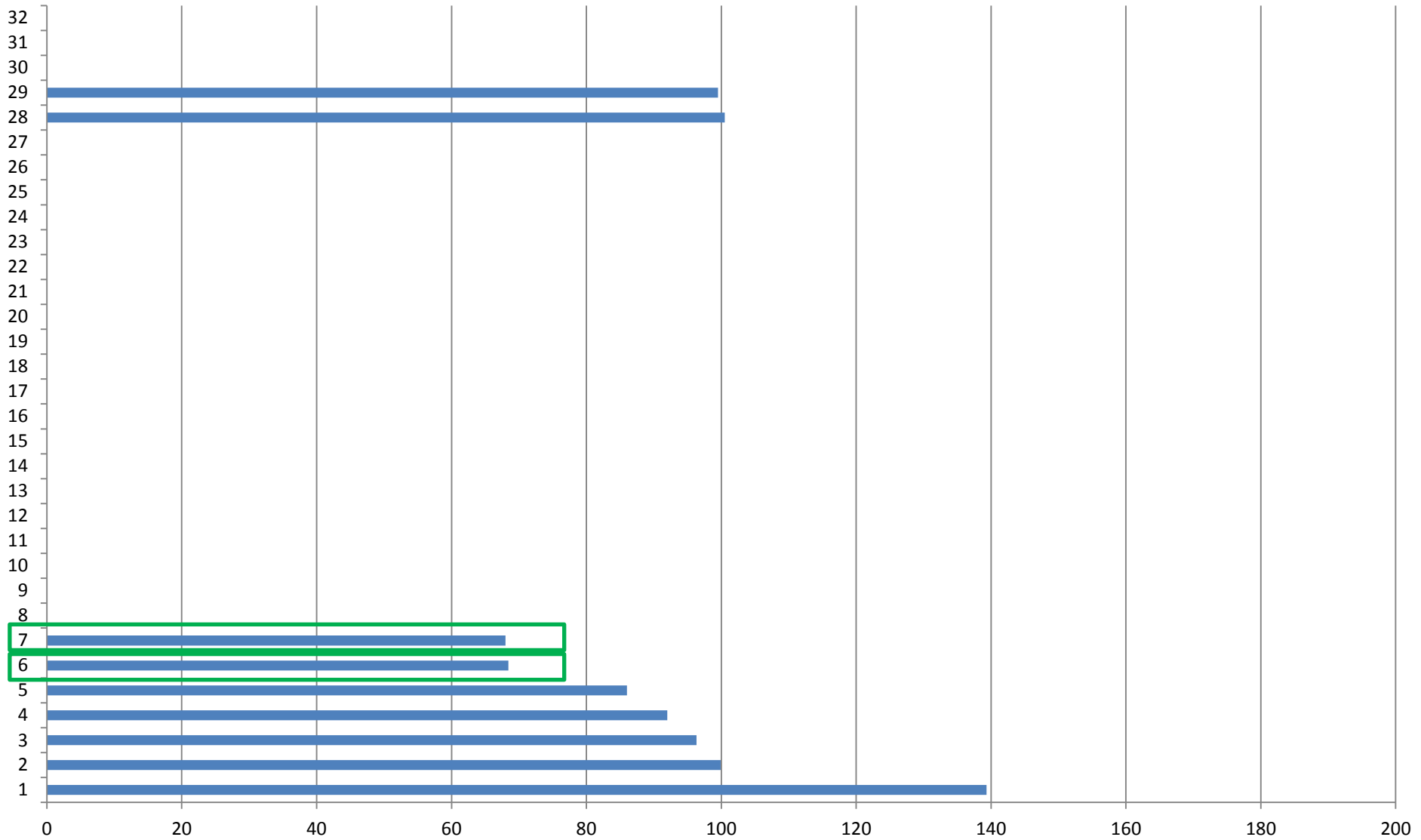
2013 Best Novel Point Totals – Round 23



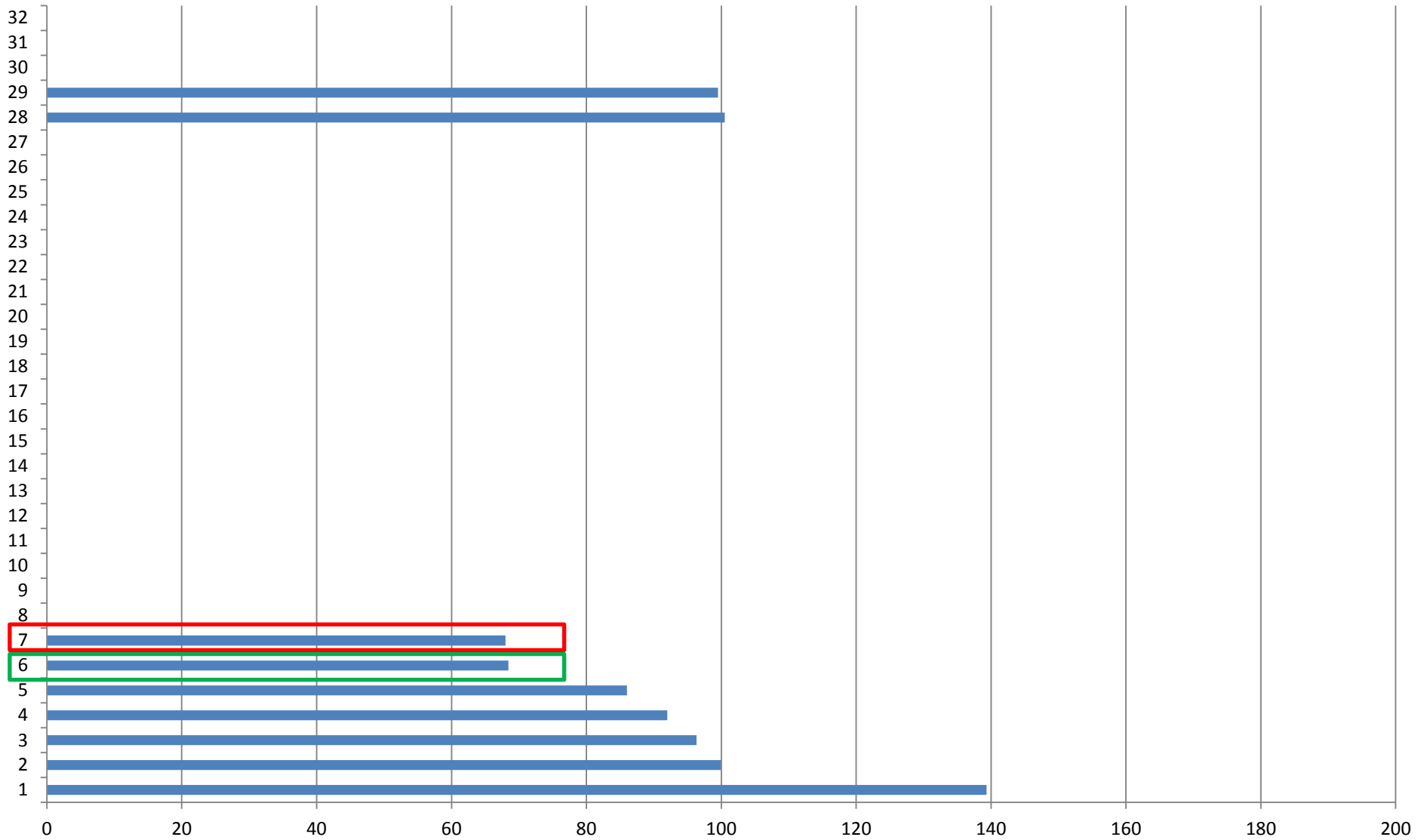
2013 Best Novel Point Totals – Round 24



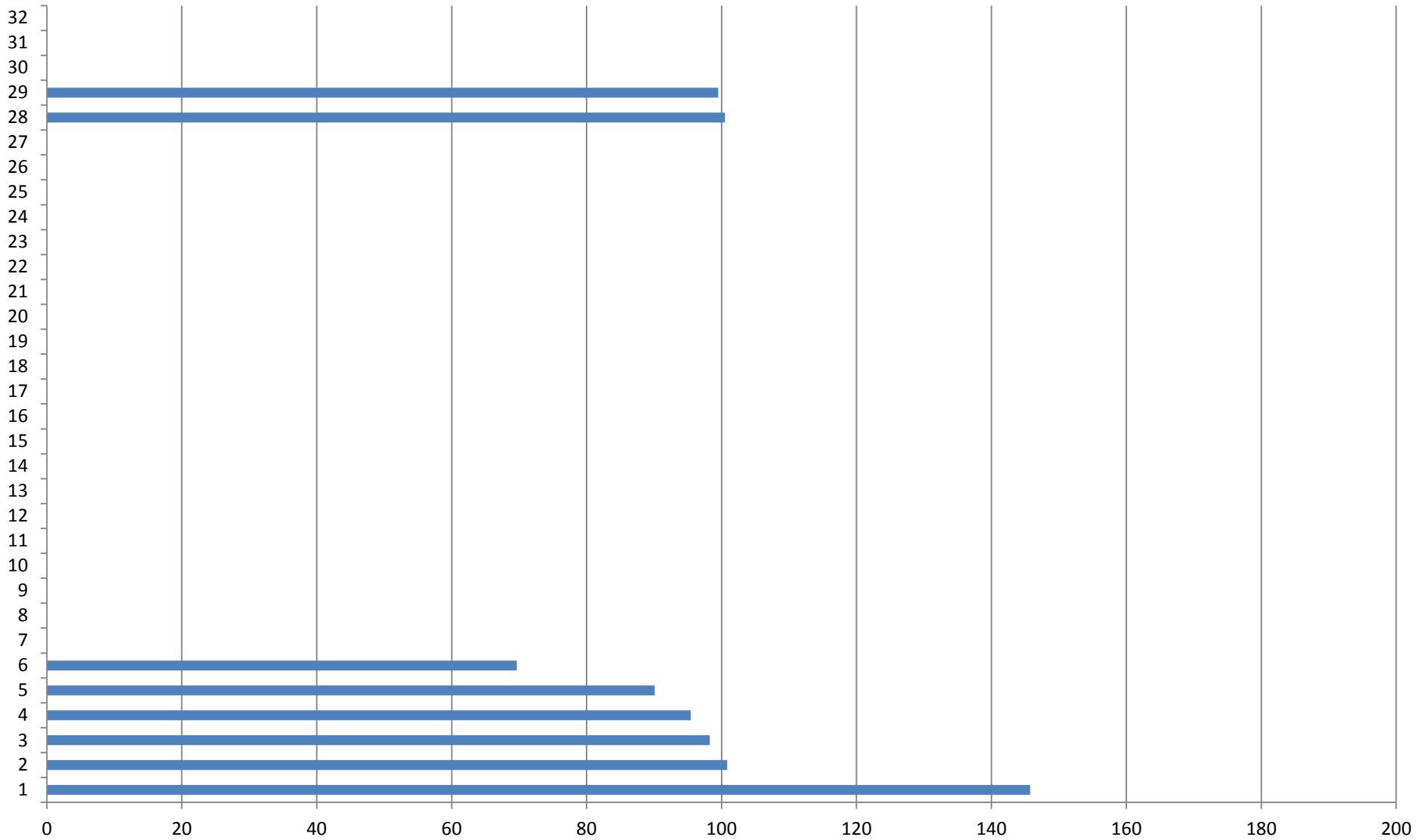
2013 Best Novel Point Totals – Round 24



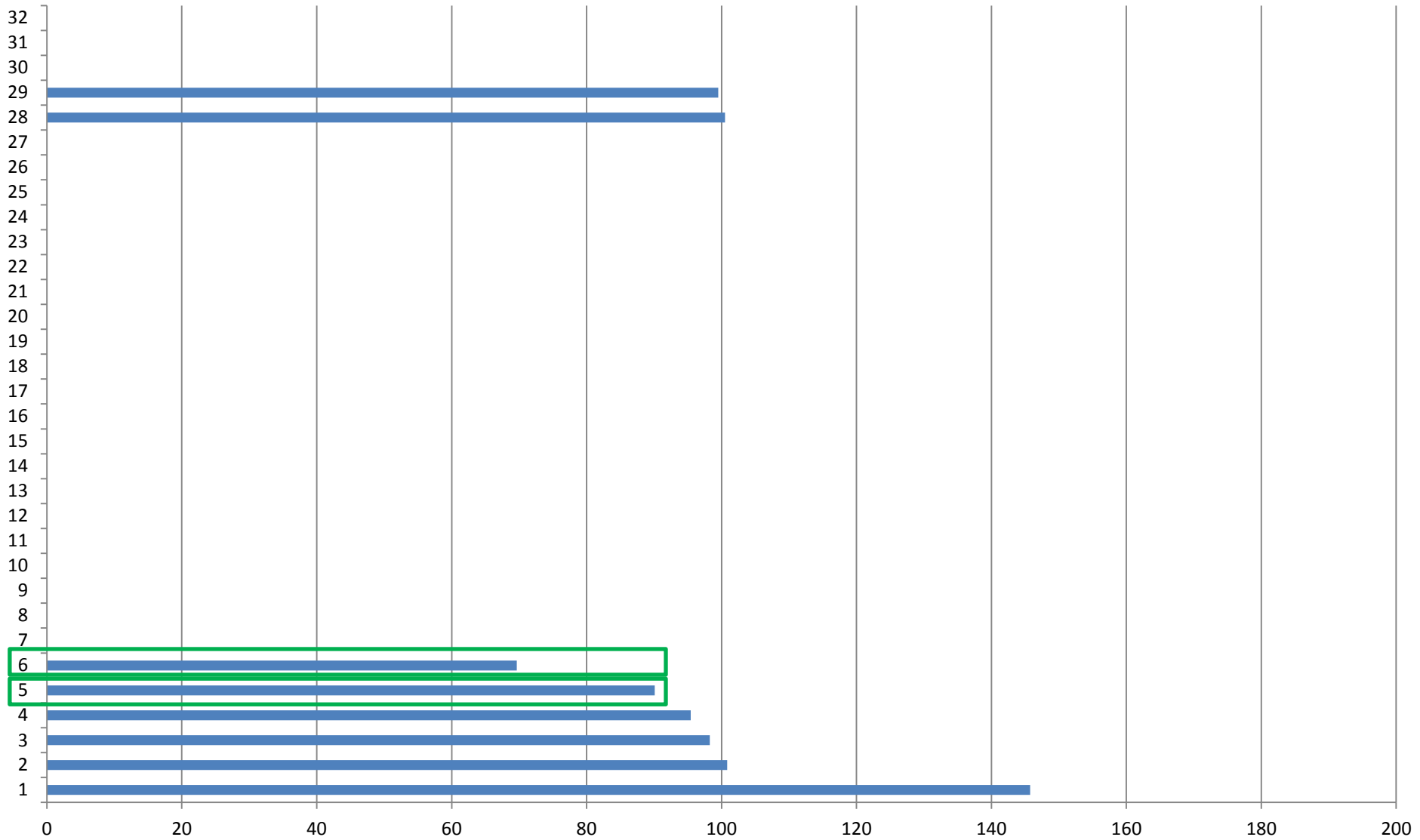
2013 Best Novel Point Totals – Round 24



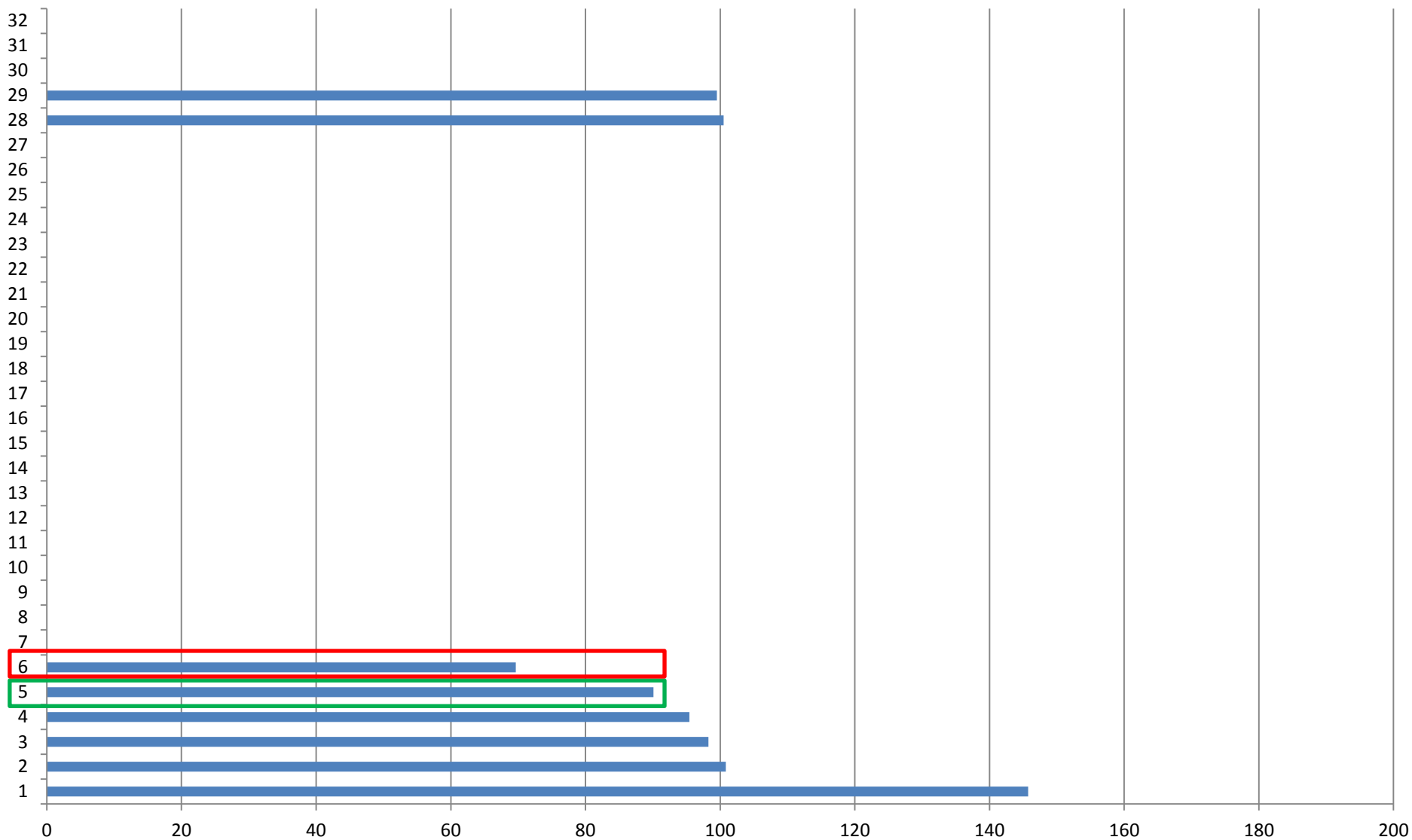
2013 Best Novel Point Totals – Round 25



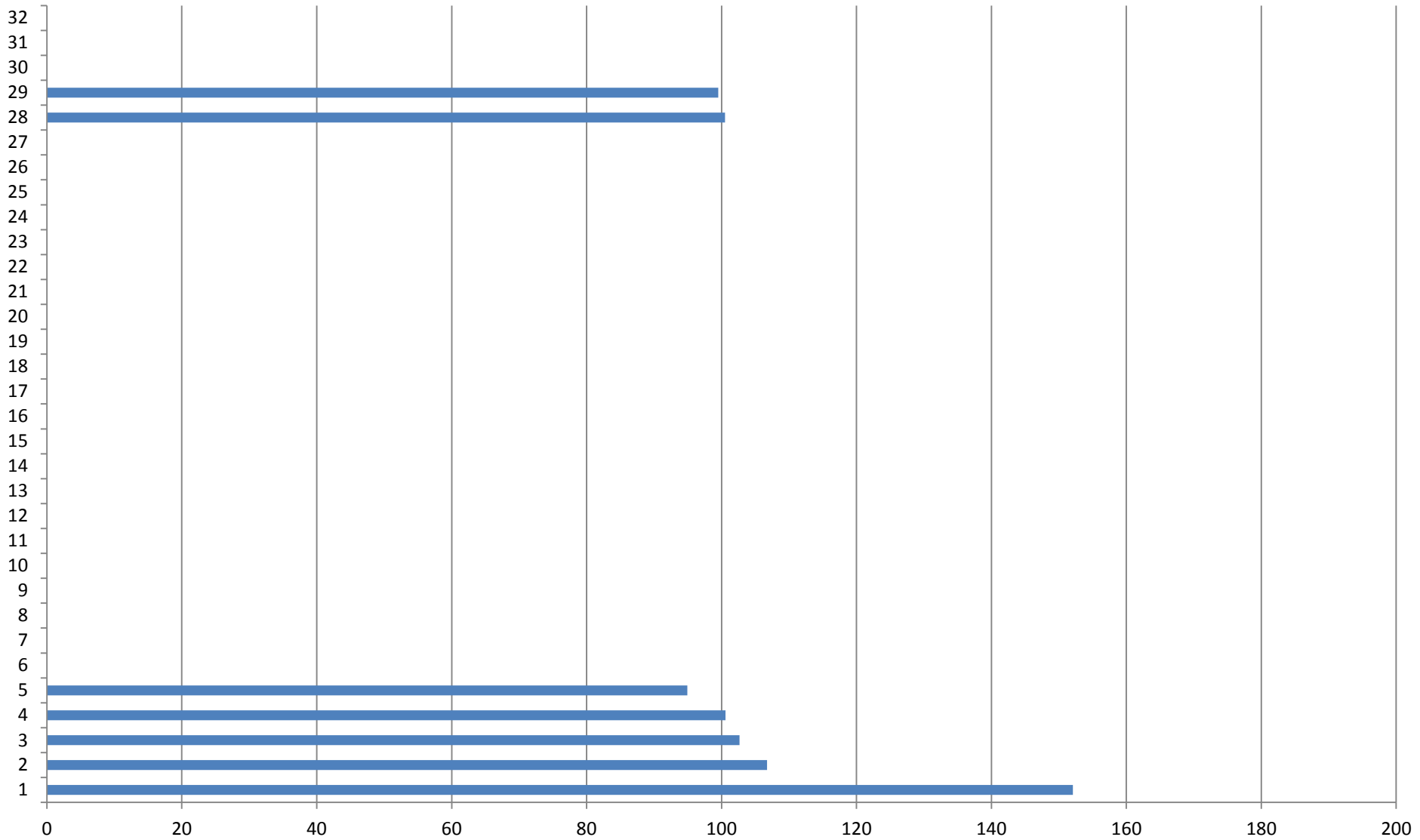
2013 Best Novel Point Totals – Round 25



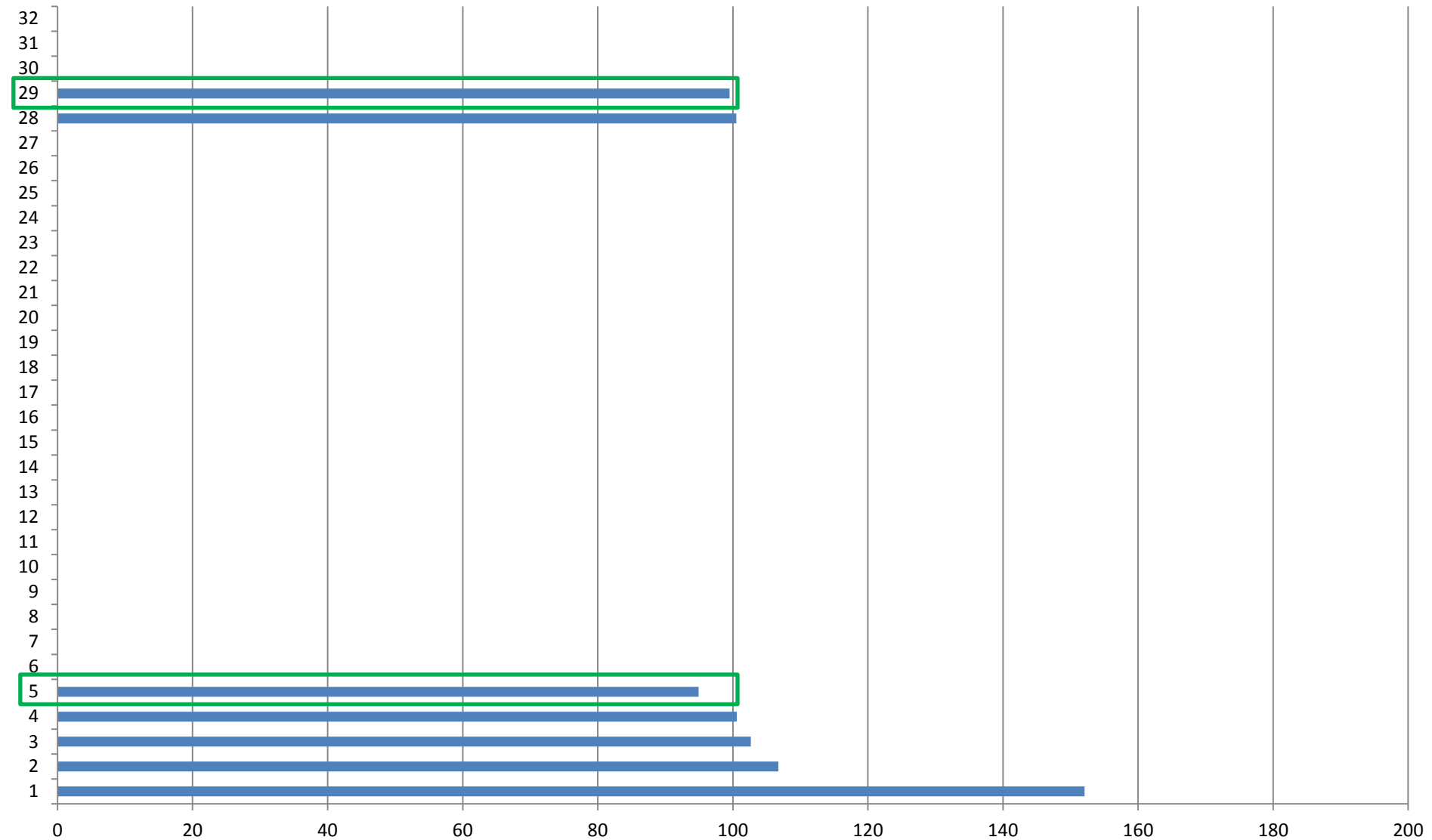
2013 Best Novel Point Totals – Round 25



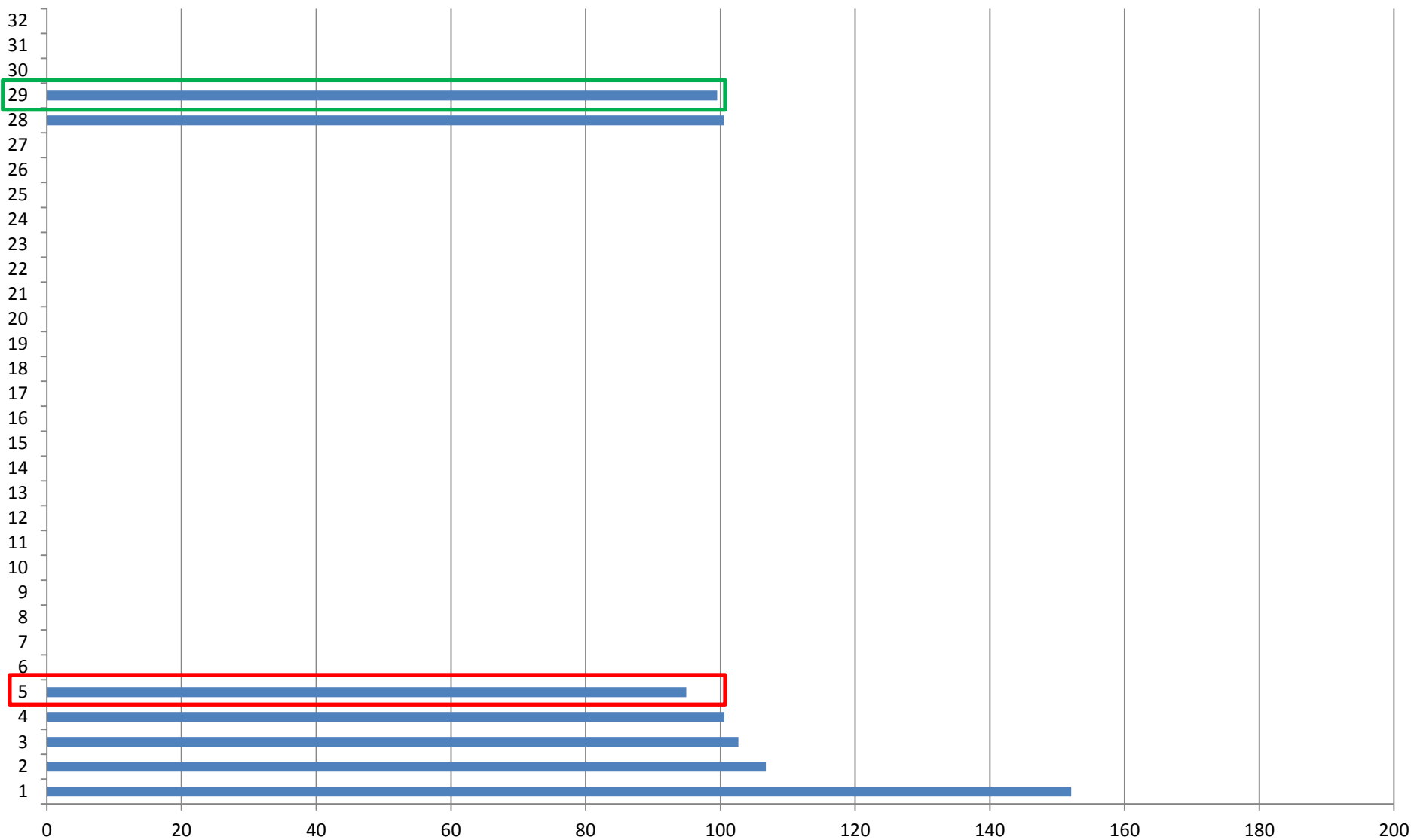
2013 Best Novel Point Totals – Round 26



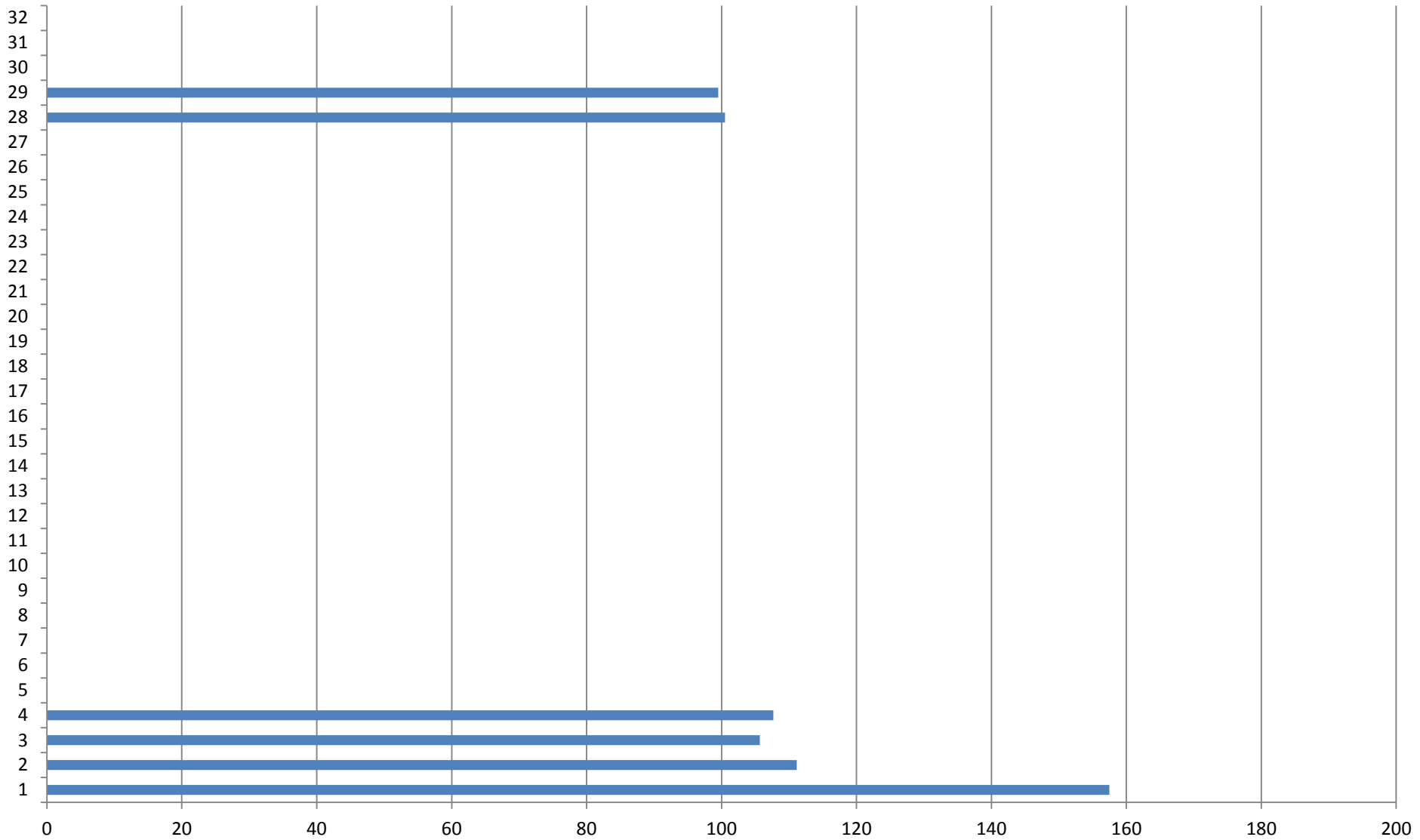
2013 Best Novel Point Totals – Round 26



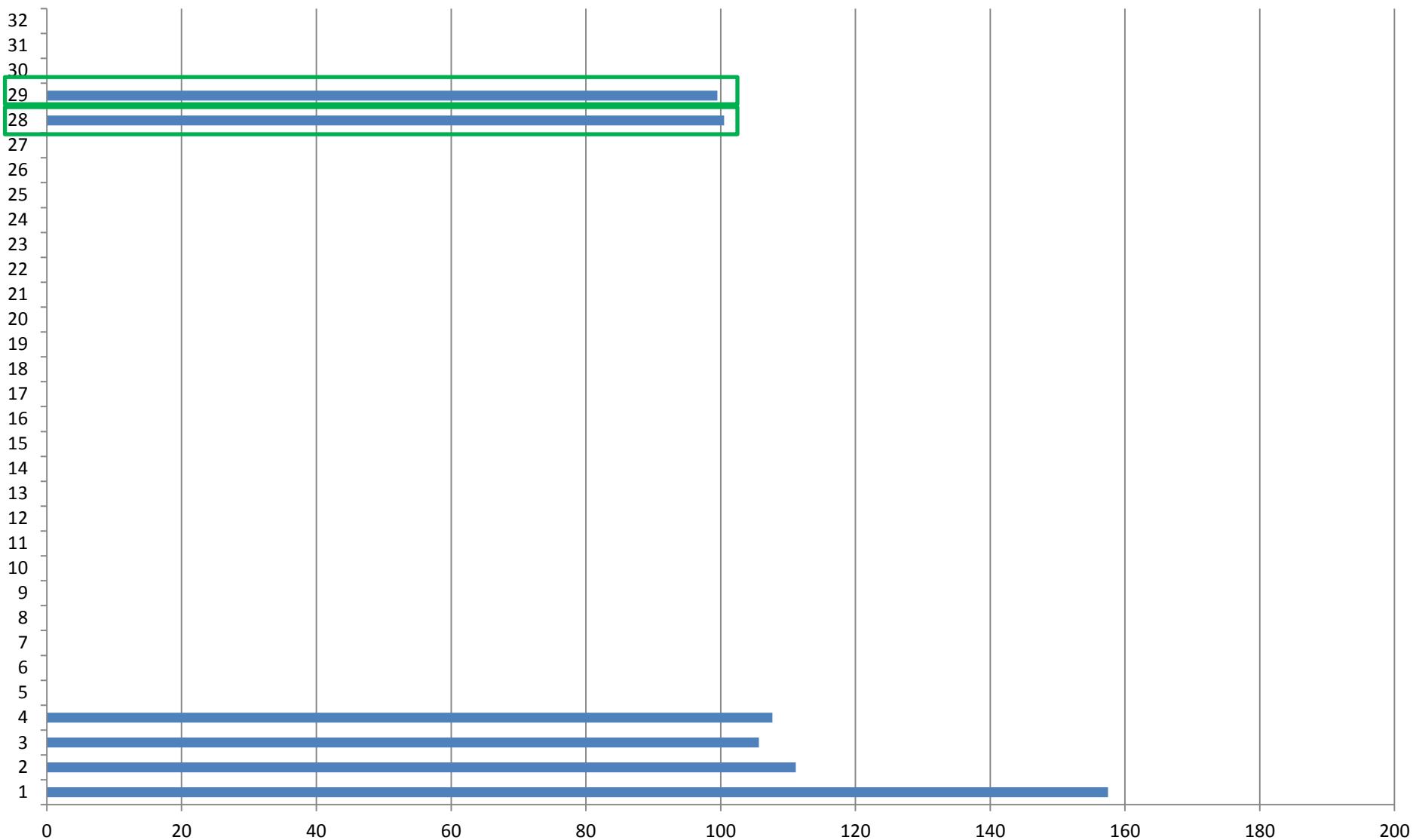
2013 Best Novel Point Totals – Round 26



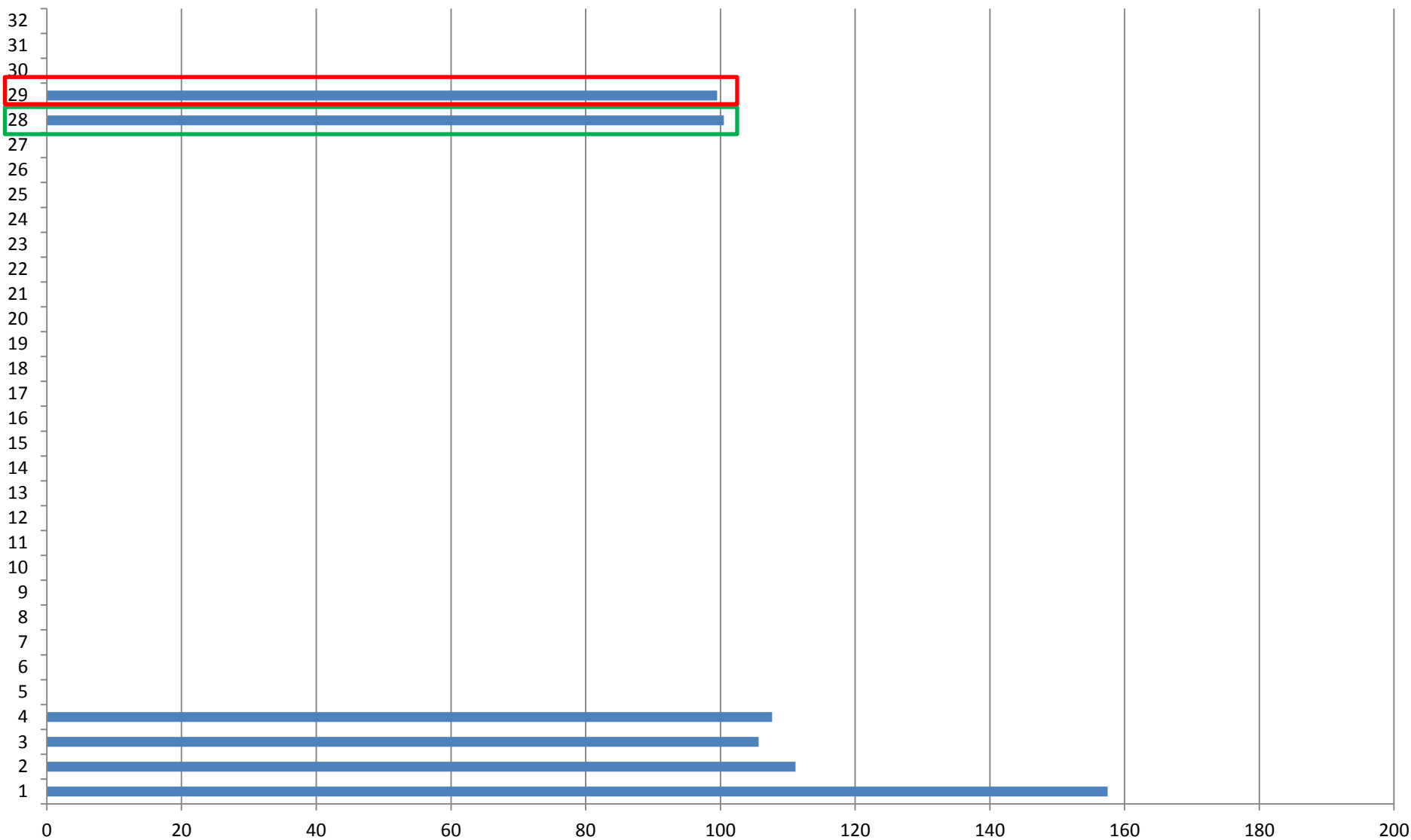
2013 Best Novel Point Totals – Round 27



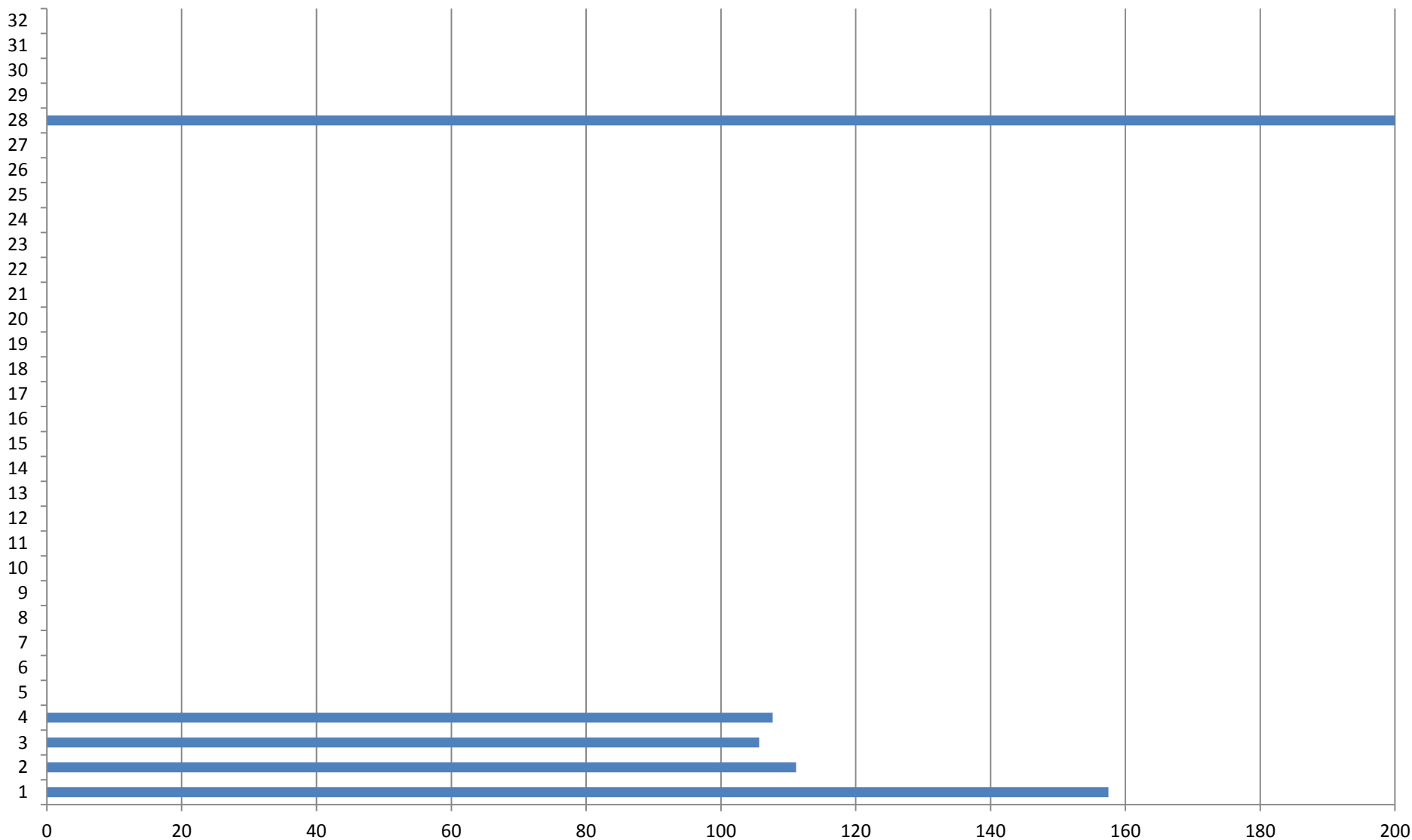
2013 Best Novel Point Totals – Round 27



2013 Best Novel Point Totals – Round 27



2013 Best Novel Point Totals – Round 28



Now that there are only five nominees left, the process ends.

2013 Best Novel : Final Ballot (E Pluribus Hugo)

- #1
- #2
- #3
- #4
- #28

Conclusion

- Under the current nomination system, the five slate nominees have the five most number of nominations, so the final ballot is 28,29,30,31,32 – **the slate sweeps the category.**
- Under EPH, the final ballot is 1,2,3,4,28 – **the slate only gets one nomination slot.**

Conclusion

- Note that as a slate gets a larger percentage of the total number of nomination ballots, they can potentially get more than one slot on the final ballot.
- Also, of course, if non-slate ballots list a slate nominee, it will get a boost from that as well.
- The only way for a slate (or even a group of slates) to sweep a category is to have a majority of the total number of nomination ballots – in which case they deserve to win.

Where To Go From Here

- We hope this helps answer some of your questions about E Pluribus Hugo.
- You can find the formal proposal on the Sasquan Business Meeting Agenda page at: <http://sasquan.org/business-meeting/agenda/>
- There is also an FAQ linked from that page that may answer more of your questions.
- Finally, there is a community Q&A page hosted at: <http://nielsenhayden.com/makinglight/archives/016283.html>

THANK YOU!

“Out of the Many, a Hugo”