Question 2: Who's the fastest runner? (1 mark)

Run run run away! A group of friends wanted to know who is the fastest amongst them, and decided to hold a running race.

It wasn't fun just running, so they decided to go for a marathon. These guys are good, but must rest occasionally to recover their energy.

Did I mention that these people are weird? They can only be running (always at their top speed), or resting (not moving at all), and can only spend **integer amounts of time** in either state.

Example case:
John can run 10 m/s for 6 seconds, but then must rest for 20 seconds
James can run 8 m/s for 8 seconds, but then must rest for 25 seconds

After one second (T=1), John has gone 10m, while James has gone 8m. After 6 seconds (T=6), John has gone 60m, while James has gone 48m. On the 7th second, John begins resting (staying at 60m), while James continues on for a total distance of 64m. On the 9th second, both runners are resting. They continue to rest until the 27th second when John runs for another 6 seconds. On the 34th second, James runs for another 8 seconds.

At the 100th second, John is resting after running 240m while James has travelled 200m. In this case, John would have won if the race ended at 100 seconds.

Here are the descriptions of this group of friends:

1) John can run 10 m/s for 6 seconds, but then must rest for 20 seconds
2) James can run 8 m/s for 8 seconds, but then must rest for 25 seconds
3) Jenna can run 12 m/s for 5 seconds, but then must rest for 16 seconds
4) Josh can run 7 m/s for 7 seconds, but then must rest for 23 seconds
5) Jacob can run 9 m/s for 4 seconds, but then must rest for 32 seconds
6) Jerry can run 5 m/s for 9 seconds, but then must rest for 18 seconds

After 1234 seconds, what is the distance of the winning runner?

Keep that answer close - you'll need to submit the answer when the submission form opens.