

NRich Problem

With my theory the best-worst case scenario would take 14 drops. If you dropped your 1st egg at floor 14 and it broke then you could drop your 2nd egg at floor 1-13 that would be a maximum of 14 drops.

If the egg survived the drop from floor 14 then you'd drop your 1st egg at floor 27 and if it broke you'd drop your 2nd egg at floor 15-26 that would also be a maximum of 14 drops.

If the egg at floor 27 survived the fall then you'd drop your 1st egg at floor 39

So everytime your 1st egg survives a fall you add the number you added before then you'd subtract 1 from that number after you add the number.

But if your 1st egg cracked at a floor then you'd drop your 2nd egg at the floor higher than the last floor your 1st egg survived unless your 1st egg cracked at floor 14 then you'd drop your 2nd egg at floor 1-13 because the 1st egg did not survive any floors.

In Algebra:

If the 1st egg survives all the drops

| | Drop 1 / Drop 2 / Drop 3 / Drop 4 / Drop 5 / Drop 6 / Drop 7 / Drop 8 / Drop 9 / Drop 10 / Drop 11 / Drop 12 | | | | | | | | | | | |
|----------|--|-------------|-------------|-------------|-------------|-------------|----|-------------|----|--------------|-----|-----|
| Algebra: | A | $B+(A-2)=C$ | | $D+(A-4)=E$ | | $F+(A-6)=G$ | | $H+(A-8)=I$ | | $J+(A-10)=K$ | | |
| | | $A+(A-1)=B$ | $C+(A-3)=D$ | $E+(A-5)=F$ | $G+(A-7)=H$ | $I+(A-9)=J$ | | | | | K+1 | |
| Floor: | 14 | 27 | 39 | 50 | 60 | 69 | 77 | 84 | 90 | 95 | 99 | 100 |