Challenge 48: Age Difference

A child notices that if she adds x years to her age, she gets a square number and, even more interestingly, if she takes x years from her age, she gets that number's square root.

- a) If x = 3, how old is the child?
- b) Would any value of x give an integer age for the child? If not, what is the next possible value of x?
- c) What other values of x work? Can you see a pattern? Can you explain it?