7. Two sides of a triangle have lengths 4 cm and 5 cm. The third side has length x cm, where x is a positive integer. How many different values can x have?

A 4   B 5   C 6   D 7   E 8

7. **D** In order to form a triangle, x must exceed the difference between 4 and 5 and x must be less than the sum of 4 and 5, i.e. $1 < x < 9$.

Hence $x = 2, 3, 4, 5, 6, 7$ or 8. So x can have 7 different values.