

April 22nd

Find a two digit number that is increased by 20% when the order of the digits are reversed.

If the 2 digit number is "ab":

Then $1.2 \times (10a + b) = 10b + a$

Hence $12a + 1.2b = 10b + a$

Therefore $11a = 8.8b$

A quick inspection will tell that the only single digit integer solution to this equation is

$$b = 5 \text{ and } a = 4$$

So the answer is **45**

(54 is 9 more, which is indeed a 20% increase!)