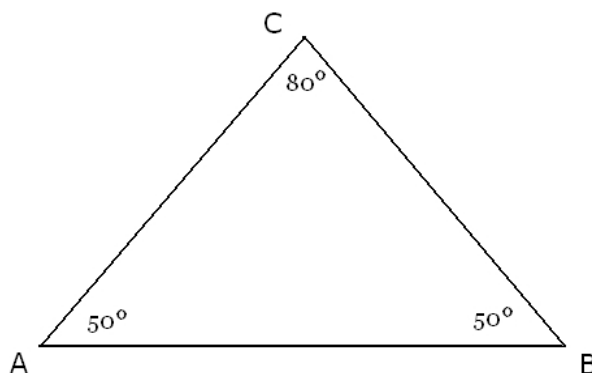
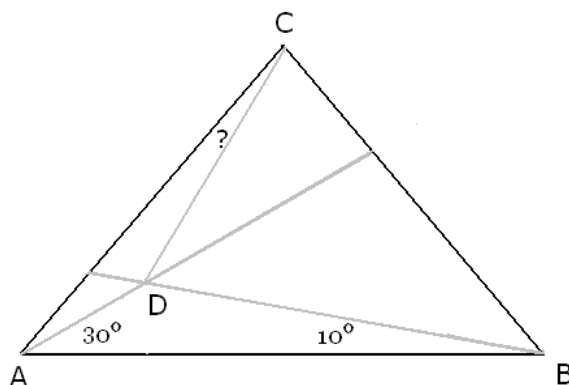


1. The angles of a triangle ABC are 50° , 50° , and 80° , as shown on the picture below.



From A , we measure an angle of 30° . From B , we measure an angle of 10° . The two lines intersect at point D . Find the measure of the angle ACD .



2. A stairway has 10 steps. At any point, we can step up one or two steps. We never step downwards. How many different ways are there to walk up the stairs?
3. Let m and n be any two natural numbers. Define the set A as

$$A = \{\alpha n + \beta m : \text{ where } \alpha \text{ and } \beta \text{ are integers}\}$$

Let a be the smallest positive element in A . Prove that a is a divisor of every element of A .