

&c. (See Enun-
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efore equal to

3. But the angle ACD is greater than the angle BCD.
(Axiom 9.)

4. Therefore the angle ADC is also greater than BCD.

5. Much more, therefore, is the angle BDC (which is greater than the angle ADC, Axiom 9) greater than BCD.

6. Again, because BC is equal to BD. (Hypothesis 3.)

7. The triangle BCD is an isosceles triangle, and the angle BDC is equal to the angle BCD. (Prop 5, Book I.)

8. But the angle BDC has been shewn to be greater than the angle BCD. (Demonstration 5.)

9. Therefore the angle BDC is both equal to, and greater than the same angle BCD, which is impossible.

CASE II.—Now let the vertex of one of the triangles fall within the other.—(See Figure

II.) The figure is constructed with the vertex D of the triangle ADB, within the other triangle ACB.

CONSTRUCTION.—Produce AC, AD, to E and F.

DEMONSTRATION.—1. Because AC is equal to AD. (Hypothesis 2.)

2. The triangle ADC is an isosceles triangle; and the angles ECD, FDC, upon the other side of its base CD, are equal to one another. (Prop. 5, Book I.)

3. But the angle ECD is greater than the angle BCD, (Axiom 9.)

4. Wherefore the angle FDC is likewise greater than BCD, (for it has been proved equal to the angle ECD.)

5. Much more then is the angle BDC (which is greater than the angle FDC, Axiom 9) greater than BCD

6. Again, because BC is equal to BD. (Hypothesis 3.)

7. The triangle BDC is an isosceles triangle; and the angle BDC is equal to the angle BCD. (Prop. 5, Book I.)

8. But the angle BDC has been shewn to be greater than the angle BCD. (Demonstration 5.)

9. Therefore the angle BDC is both equal to, and greater than the same angle BCD, which is impossible.

CASE III.—The case in which the vertex of one triangle is upon a side of the other needs no demonstration, as it is shewn to be impossible by Proposition 6.

CONCLUSION.—Therefore, upon the same base, &c. (See Enunciation.) Which was to be shewn.

