Same side interior angle postulate

To continue to benefit from our site, we ask that you confirm your identity as a human being. Thank you so much for your cooperation. When two lines intersect with another line (called Transversal): Angle pairs on one side of transversal but within two lines are called Consecutive Inner Angles. In this example, they are Consecutive Inner Angles: And to help you remember: angle pairs consecutively (follow each other), and two diagonal lines on the Inside. Parallel Lines Consecutive Inner Angles are added up to 180° when the two lines cut are Parallel Lines. (Click Consecutive Inner Angles to be highlighted for you.) Language Note: Also called Co-Interior Angles in the UK and Australia © 2018 MathsIsFun.com Kristina Dunbar, University of Georgia and Michelle Corey, Russell Kennedy, Floyd Rinehart, UGA Evidence of The Same Side Inner Angles by The Same Side Inner Angles: L, M and T assume there are different lines. L and M are parallel to L and M if the same side inner angles where L and T and T intersect. Proof: => Suppose L|| M and the same side is in addition to prove internal angles. Assume L|| M and the angle assignments above. Then we know that α = and β = with the alternative internal angle theorem γ. A, B and C are collegular and B is between A and C as the structure, because A and C are two points at the parallel line L and C on opposite sides of transversal T and the intersection of B, L and T. So, the angle is a straight angle of ABC, or 180º. So, α + β = 180º and α change the σ to get β + β = 180º μ the game. So, these two are complementary to the same side inner angles. Now, change α γ to get β γ + γ = 180º. We have now shown that both sides are complementary to the inner angle pairs. <= Suppose the same side inner angles are complementary, prove that L and M are parallel. Let's say l and T and M and T are complementary to the same side inner angles, i.e. α + γ = 180º and π + β = 180º. Then, with parallel axioma, L and M do not intersect because the inner angles on both sides of the transversal are equal to 180º, which is no less than 180º. Therefore, because they do not intersect on both sides (the internal angles of both sides are added up to 180º), they have nothing in common, so they are parallel. Addendum: Illustration: If we know that ى + β = α + γ = 180º, then we know that there can exist only two possibilities: either the lines do not intersect at all (and hence are parallel), or they intersect on both sides. However, the L and M lines could not intersect in two places and may still be different. That would be impossible because the two dots set a line. Therefore, L|| M. || Parallels Home || Kristina Dunbar Home || Dr. McCrory's Geometry Page || If you copy one of the corresponding angles and flip it along the transversal, it will overlap the other angle. For example, slide ∠ 1 down and ∠2. When the lines are parallel, the corresponding angles are equal in measure. m∠1 = m∠2 and m∠3 = m∠4 m∠5 = m∠6 and m∠7 = m∠8 Same Side Inner Angles- a transversal The corresponding angles after the postulate of the two angles located on the same side of the side and between the lines cut with the transversal Same Side Inner Angles are compatible with the Postulate Converse Of The Same Side Angles Two lines and a transversal form in addition to the same side inner angles , then parallel to two lines