Intermediate 1B 2025 Review

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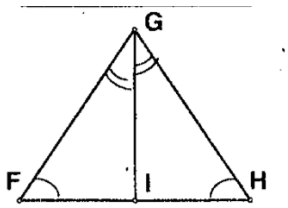
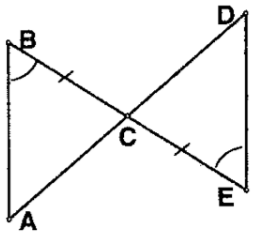
September 24, 2025

1 Triangle Congruence Tests

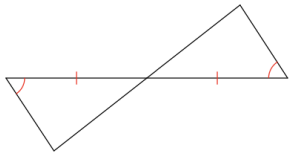
1. Name the three congruence tests:
2. Which theorem proves congruence here:



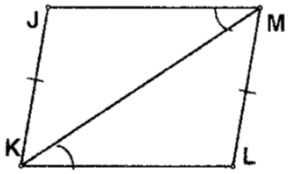
3. Which theorem proves congruence here:



4. Which theorem proves congruence here?

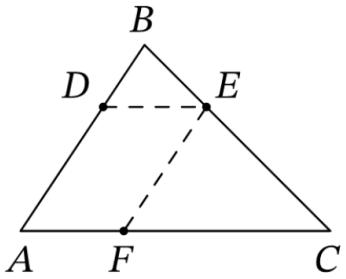


5. Which theorem proves congruence here?

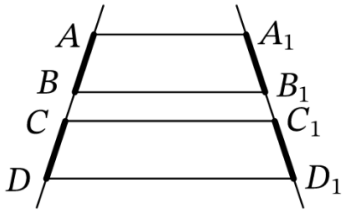


2 Intercept Theorem

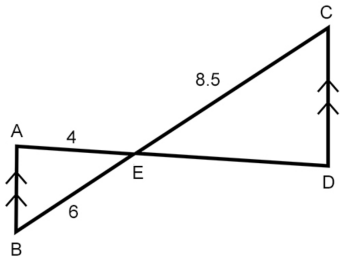
1. Point D divides side AB at ratio AD:DB = 2:1. If AB = 24, BC = 12 and AC = 36, find DE.



2. Prove the Intercept Theorem (ie if we know AB=CD, show A1B1 = C1D1).



3. How long is ED?



3 Rectangle, Rhombus, Square

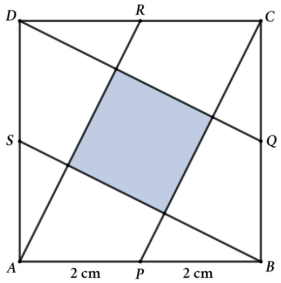
1. What is a rhombus?

2. At what angle do the diagonals of a rhombus intersect at?

3. What is the greatest possible number of right angles a quadrilateral can have without being a rectangle?

4. What are the angles in the rhombi?

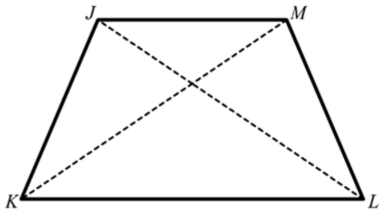
5. From the figure, ABCD is a square, and P, Q, R, and S are midpoints. Find the area of the smaller square inside the bigger square when the sides of the square are 4 cm.



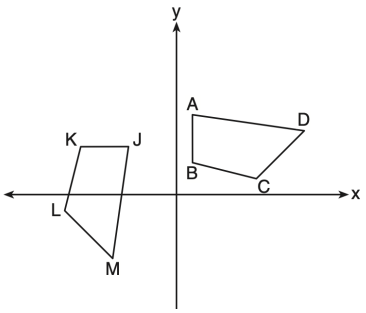
4 Trapezoid

1. What are the two requirements for a shape to be a trapezoid?

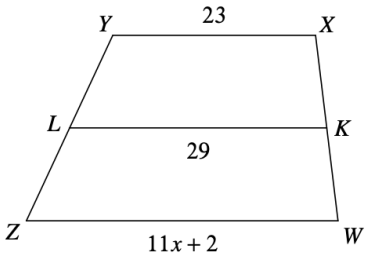
2. Let's assume this trapezoid is isosceles. If the point where they meet is point E, what is the value of angle JEK - MEL? You must prove why.



3. Trapezoid ABCD was translated into trapezoid KJML. If angle A = 82, angle B = 104 and angle L = 121, find angle M.

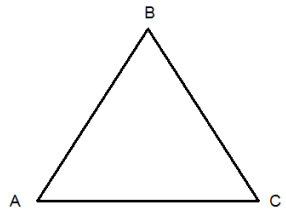


4. Solve for x.

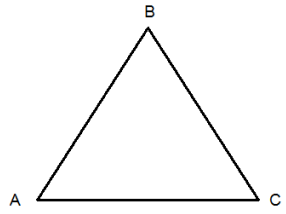


5 Simple Inequalities

1. If angle A = 30, B = 110 and C = 40, which side is the longest? (Intentionally not draw to scale)

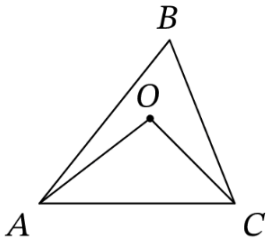


2. Is AB = 12 and BC = 25, what is the maximum value possible for AC? (Intentionally not drawn to scale)



3. If point X lies on an angle bisector, what is the relationship between the perpendiculars? (Must explain why, not just give an answer)

4. Which angle is bigger, ABC or AOC? (Must explain why, not just give an answer)

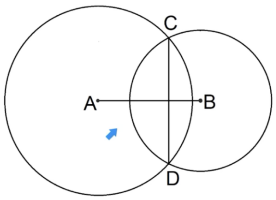


6 Circles

1. What is a chord?

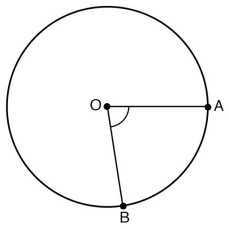
2. One circle has a radius of 1 and the other a radius of 4. The distance between their centers is 2.5. Do they intersect?

3. If the radius of Circle A is 12 and the radius of Circle B is 9, what is AB? (Leave it with the square roots) Note: Remember the Pythagorean Theorem is $a^2 + b^2 = c^2$ where c is the hypotenuse.

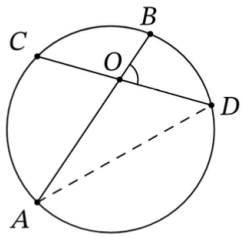


7 Angles in a Circle

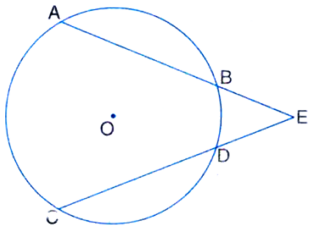
1. If the arc measure is 60 degrees, what is angle AOB?



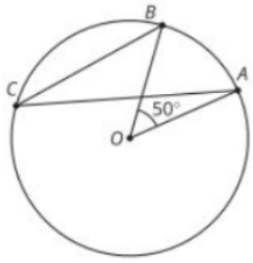
2. If arc BD = 30 and arc AC = 84, what is angle BOD? (O is NOT the center of the circle)



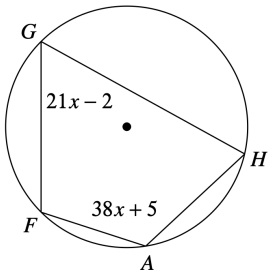
3. If angle BED = 25 degrees and arc AC = 73, what is arc BD?



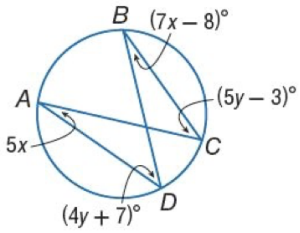
What is angle ACB? (AOB = 50 degrees)



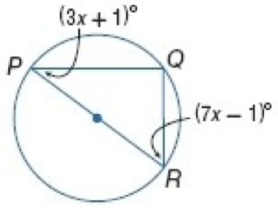
4. Find the measure of arc FGH (the arc starting at F, going through G and ending at H).



5. Find x and y.

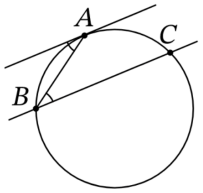


Find angle R.

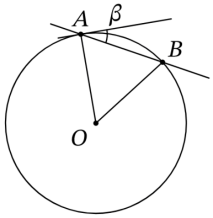


8 Tangents

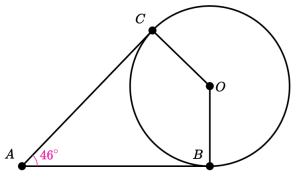
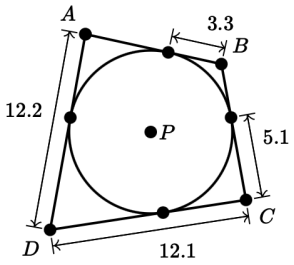
1. What is the angle formed between the radius hitting the circle at the tangent point and the tangent line?
2. If arc BC = 205 and the chord intersects two parallel lines, find angle ABC.



3. If the outer arc AB (not the one with the secant going through it) = 290 degrees, find angle beta.



4. Find angle O if AC and AB are tangent lines and angle A = 46 degrees.



5. Find the perimeter of this shape.