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- 1 A trapezoid has side lengths as indicated in the figure (the sides with length 11 and 36 are parallel). Calculate the area of the trapezoid.
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- 2 Find all sets of five consecutive integers with that property that the sum of the squares of the first three numbers is equal to the sum of the squares on the last two.

- 3 From the vertex C in triangle ABC , draw a straight line that bisects the median from A . In what ratio does this line divide the segment AB ?
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- 4 Solve the equation
$$(2^x - 4)^3 + (4^x - 2)^3 = (4^x + 2^x - 6)^3$$
where x is a real number.

- 5 In the plane, six circles are given so that none of the circles contain one the center of the other. Show that there is no point that lies in all the circles.