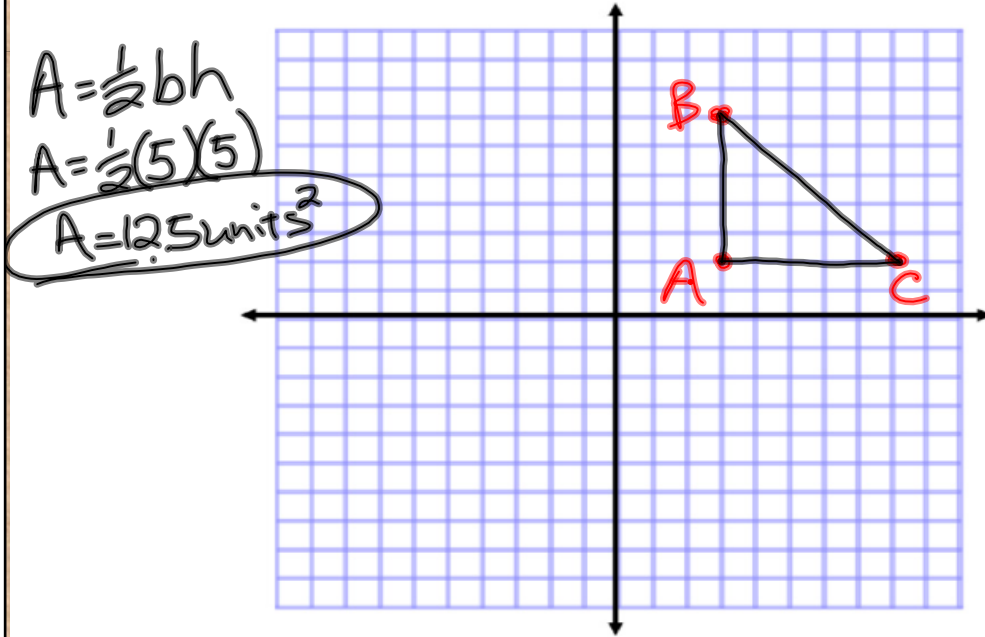


Classwork

Examples 1-4

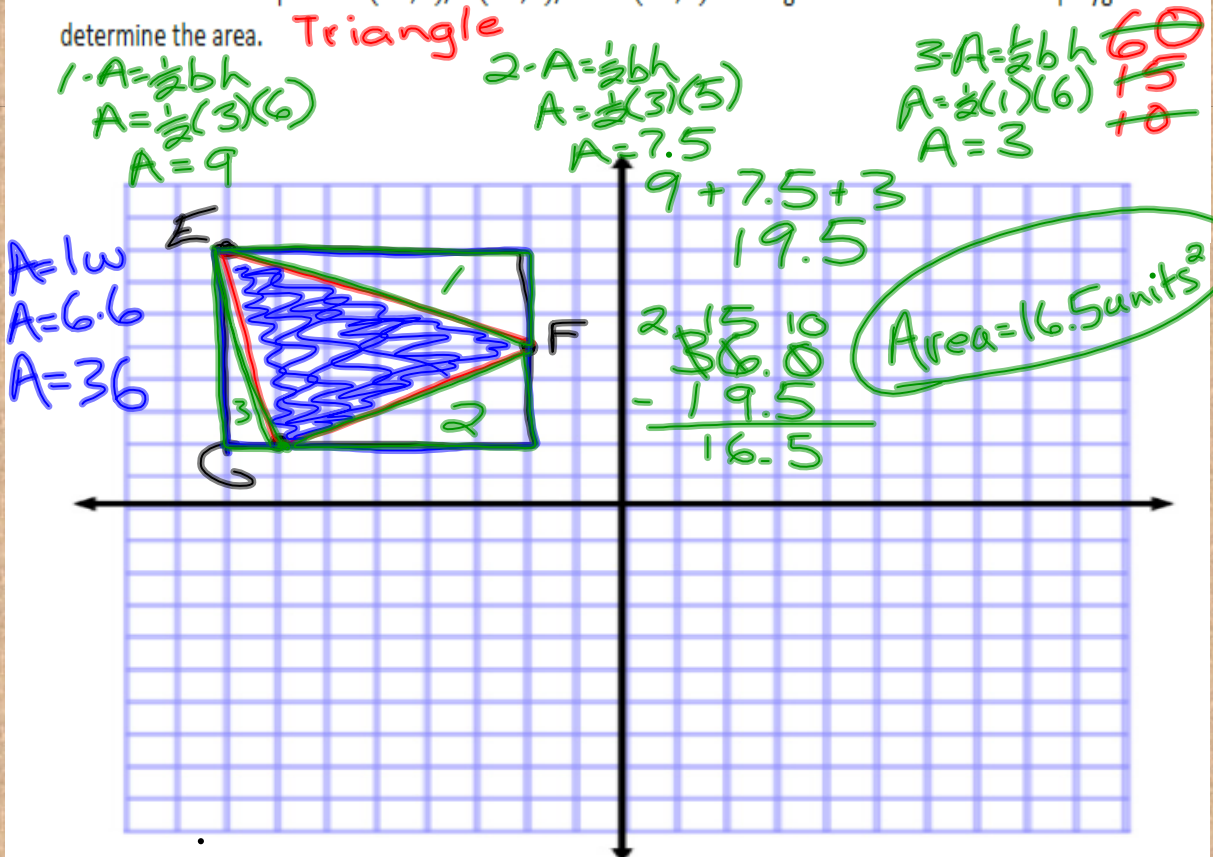


1. Plot and connect the points $A(3, 2)$, $B(3, 7)$, and $C(8, 2)$. Name the shape and determine the area of the polygon.

Right Triangle

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2. Plot and connect the points $E(-8, 8)$, $F(-2, 5)$, and $G(-7, 2)$. Then give the best name for the polygon and determine the area.



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3. Plot the following points: $K(-10, -9)$, $L(-8, -2)$, $M(-3, -6)$, and $N(-7, -6)$. Give the best name for the polygon and determine the area.

$A = \frac{1}{2}bh$
 $A = \frac{1}{2}(6)(4)$
 $A = 12$

Quadrilateral
 $A = 15 \text{ units}^2$
 $12 + 3 = 15$

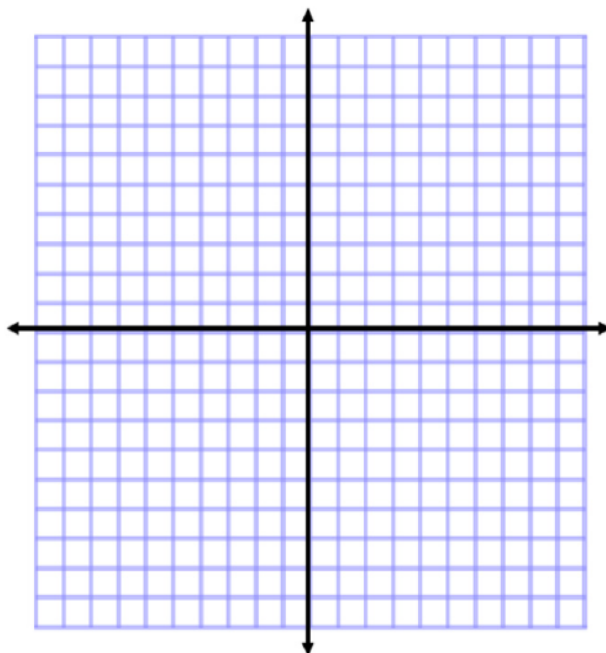
$A = \frac{1}{2}bh$
 $A = \frac{1}{2}(2)(3)$
 $A = 3$

4. Plot the following points: $P(1, -4)$, $Q(5, -2)$, $R(9, -4)$, $S(7, -8)$, and $T(3, -8)$. Give the best name for the polygon and determine the area.

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Example 5

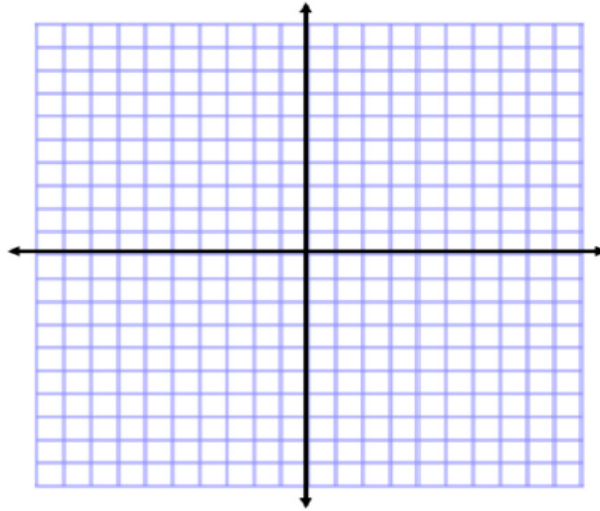
5. Two of the coordinates of a rectangle are $A(3, 7)$ and $B(3, 2)$. The rectangle has an area of 30 square units. Give the possible locations of the other two vertices by identifying their coordinates. (Use the coordinate plane to draw out and check your answer.)



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Exercises

For Problems 1 and 2, plot the points, name the shape, and determine the area of the shape. Then write an expression that could be used to determine the area of the figure. Explain how each part of the expression corresponds to the situation.

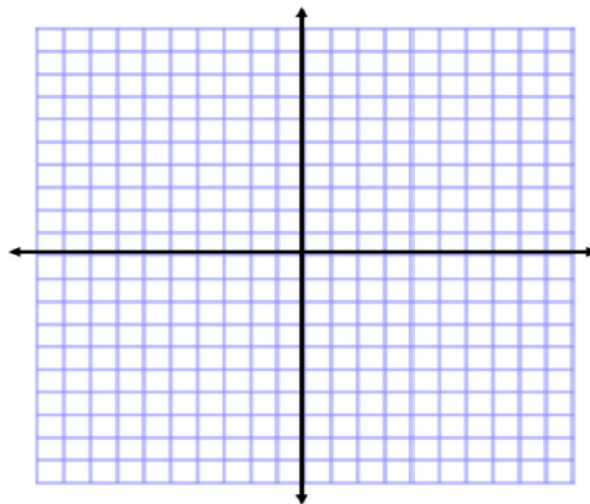


1. $A(4, 6)$, $B(8, 6)$, $C(10, 2)$, $D(8, -3)$, $E(5, -3)$, and $F(2, 2)$

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Exercises

For Problems 1 and 2, plot the points, name the shape, and determine the area of the shape. Then write an expression that could be used to determine the area of the figure. Explain how each part of the expression corresponds to the situation.



2. $X(-9, 6)$, $Y(-2, -1)$, and $Z(-8, -7)$

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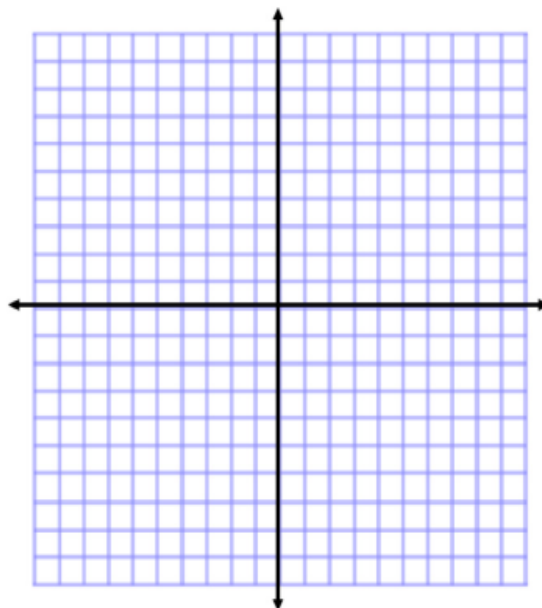
3. A rectangle with vertices located at $(-3, 4)$ and $(5, 4)$ has an area of 32 square units. Determine the location of the other two vertices.
4. Challenge: A triangle with vertices located at $(-2, -3)$ and $(3, -3)$ has an area of 20 square units. Determine one possible location of the other vertex.

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Problem Set

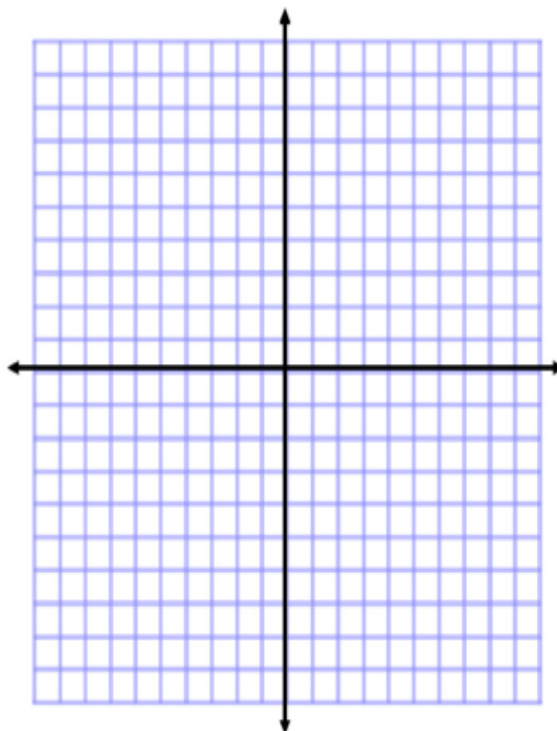
Plot the points for each shape. Then determine the area of the polygon. Then write an expression that could be used to determine the area of the figure. Explain how each part of the expression corresponds to the situation.

1. $A(1, 3)$, $B(2, 8)$, $C(8, 8)$, $D(10, 3)$, and $E(5, -2)$



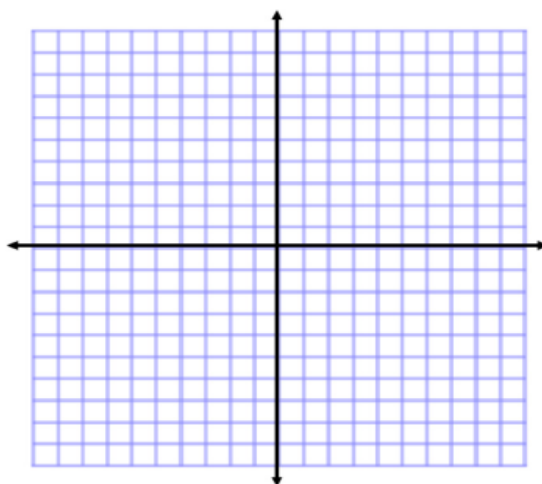
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2. $X(-10, 2)$, $Y(-3, 6)$, and $Z(-6, 5)$



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3. $E(5, 7)$, $F(9, -5)$, and $G(1, -3)$

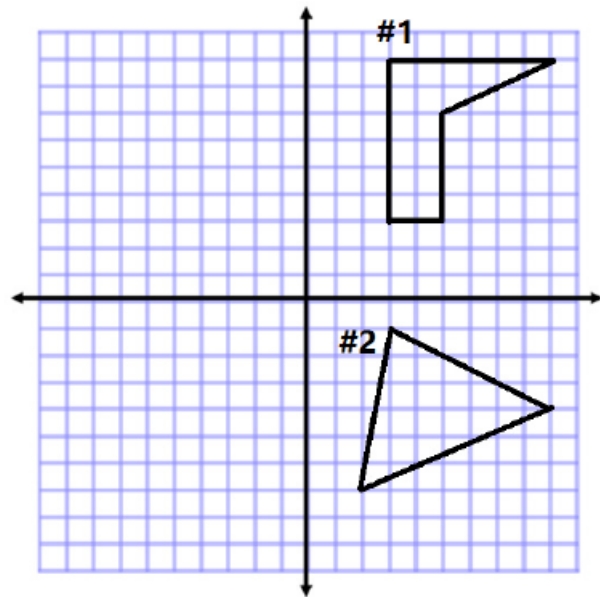


4. Find the area of the triangle in Problem 3 using a different method. Then compare the expressions that can be used for both solutions in Problem 3 and 4.
5. The vertices of a rectangle are $(8, -5)$ and $(8, 7)$. If the area of the rectangle is 72 square units, name the possible location of the other two vertices.
6. A triangle with vertices located at $(5, -8)$ and $(5, 4)$ has an area of 48 square units. Determine one possible location of the other vertex.

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Exit Ticket

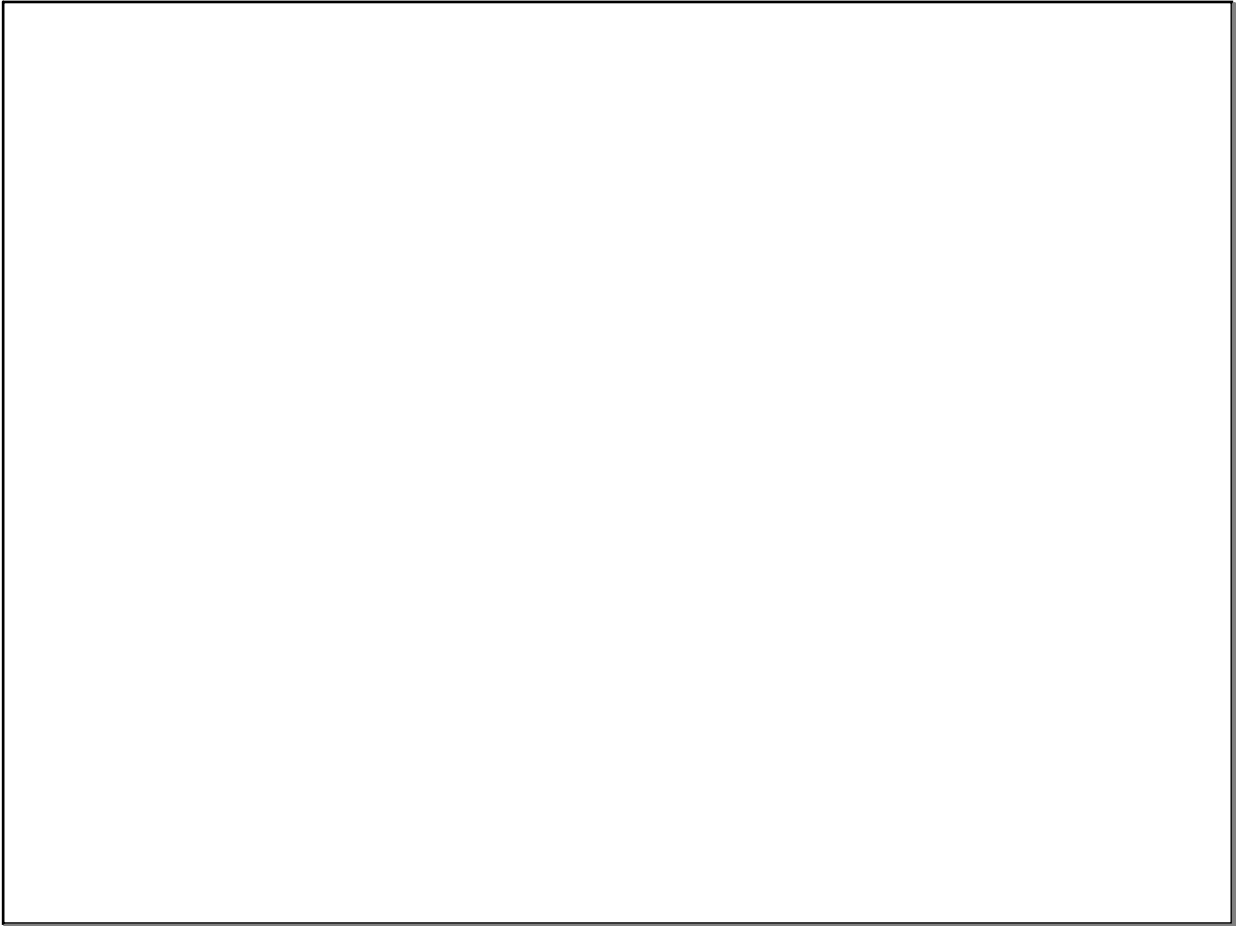
Determine the area of both polygons on the coordinate plane, and explain why you chose the methods you used. Then write an expression that could be used to determine the area of the figure. Explain how each part of the expression corresponds to the situation.



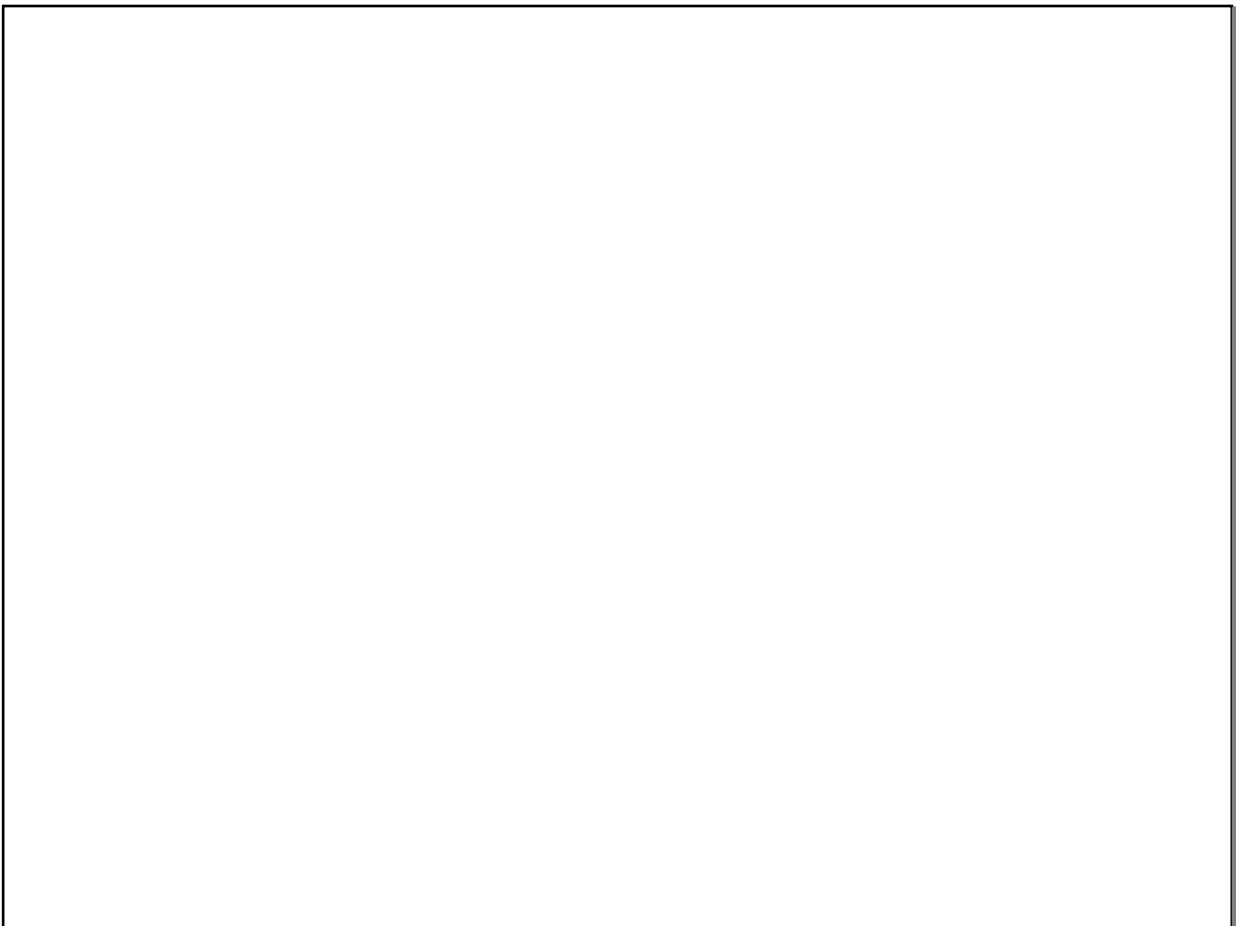
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Blank area for student response.

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