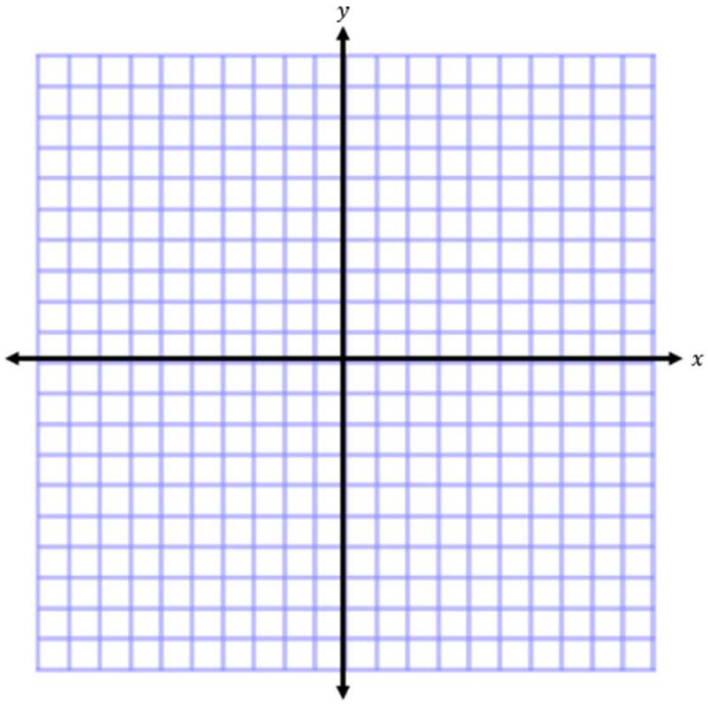
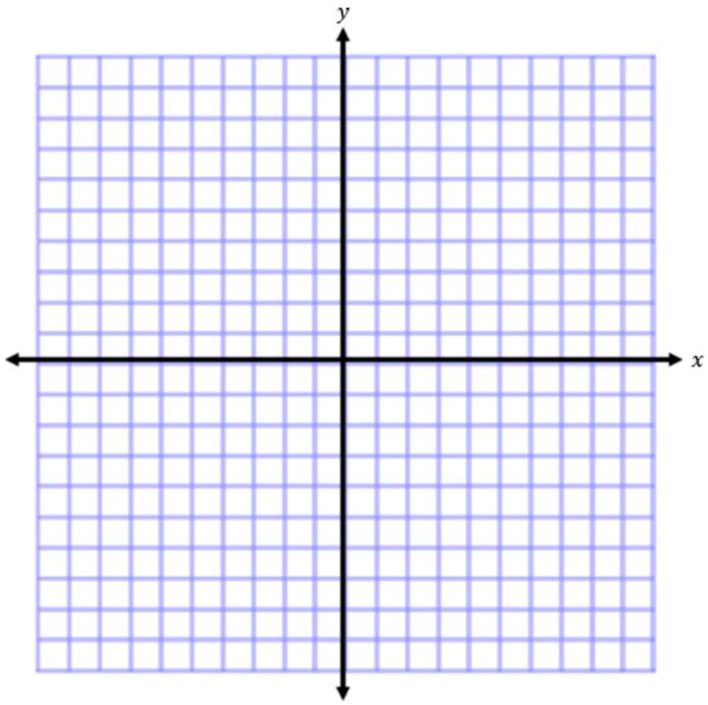
Geometry Worksheets
(Area of Polygons in the Coordinate Plane)

1. Plot and connect the following points: $K(-9,-7)$, $L(-4,-2)$, $M(-1,-5)$, and $N(-5,-5)$. Give the best name for the polygon, and determine the area.



2. Plot and connect the following points: X$(-9,6)$, Y$(-2,-1)$, and $T(-8,-7)$. Give the best name for the polygon, and determine the area.



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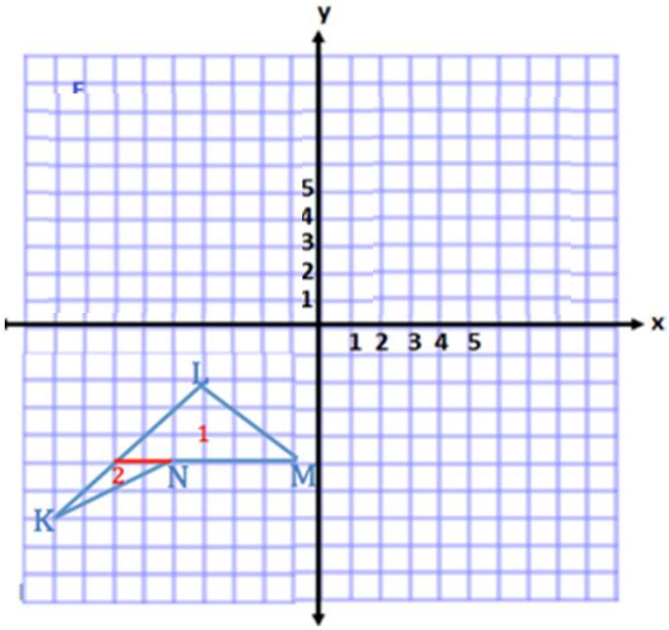


This polygon has 4 sides and has no pairs of parallel sides. Therefore, the best name for this shape is a quadrilateral.

To determine the area, I will separate the shape into two triangles.

Area of Triangle 1

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(6 \text{ units})(3 \text{ units})$

$A = \frac{1}{2}(18 \text{ units}^2)$

$A = 9 \text{ units}^2$

Area of Triangle 2

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(2 \text{ units})(2 \text{ units})$

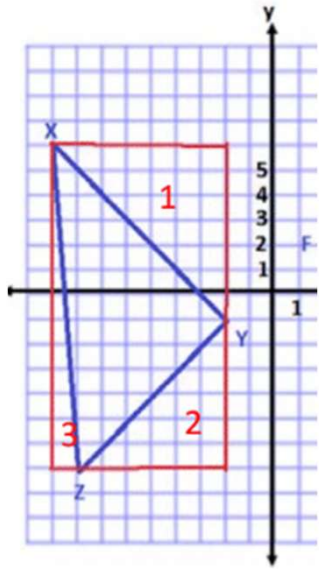
$A = \frac{1}{2}(4 \text{ units}^2)$

$A = 2 \text{ units}^2$

$\text{Total Area} = 9 \text{ units}^2 + 2 \text{ units}^2$

$\text{Total Area} = 11 \text{ units}^2$

2. Plot and connect the following points: X$(-9,6)$, Y$(-2,-1)$, and $T(-8,-7)$. Give the best name for the polygon, and determine the area.



This shape is a triangle.

Area of Outside Rectangle

$A = lw$

$A = (7 \text{ units})\ (13 \text{ units})$

$A = 91 \text{ units}^2$

Area of Triangle 1

$A = \frac{1}{2}\ bh$

$A = \frac{1}{2}(7 \text{ units})(7 \text{ units})$

$A = \frac{1}{2}(49 \text{ units}^2)$

$A = 24.5 \text{ units}^2$

Area of Triangle 2

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(6 \text{ units})(6 \text{ units})$

$A = \frac{1}{2}(36 \text{ units}^2)$

$A = 18 \text{ units}^2$

Area of Triangle 3

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(13 \text{ units})(1 \text{ unit})$

$A = \frac{1}{2}(13 \text{ units}^2)$

$A = 6.5 \text{ units}^2$

$\text{Total Area} = 91 \text{ units}^2 - 24.5 \text{ units}^2 - 18 \text{ units}^2 - 6.5 \text{ units}^2$

$\text{Total Area} = 42 \text{ units}^2$