

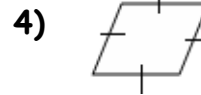
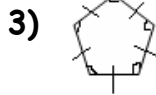
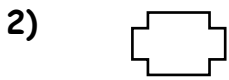
Polygons

1) Determine which of the following figures is a polygon.



a) _____ b) _____ c) _____ d) _____

Identify the polygon. Determine if the polygon is concave or convex. State if the polygon is equiangular, equilateral, regular, or none of the above.



5) Fill in the missing blanks in the polygon table.

Polygon Type	Number of Sides
Triangle	3
Quadrilateral	4
Pentagon	5
a) <u>?</u> _____	6
b) <u>?</u> _____	7
c) <u>?</u> _____	8
d) <u>?</u> _____	9
Decagon	10
Hendecagon	11
e) <u>?</u> _____	12
<i>n</i> -gon	<i>n</i>

6) Decide if the statement is **Always**, **Sometimes**, or **Never** true.

- | | |
|---|----------|
| a) A rectangle is a rhombus. | a) _____ |
| b) A square is a quadrilateral. | b) _____ |
| c) A trapezoid is a kite. | c) _____ |
| d) A kite is a pentagon. | d) _____ |
| e) The sum of the interior angles of a rhombus is 360° . | e) _____ |
| f) A rectangle has opposite sides parallel. | f) _____ |
| g) A trapezoid has two congruent legs. | g) _____ |
| h) A triangle is concave. | h) _____ |

7) Determine the sum of the measures of the interior angles for each polygon given.

- | | | | |
|---------|------------|------------|----------|
| a) Kite | b) Hexagon | c) Decagon | a) _____ |
| | | | b) _____ |
| | | | c) _____ |

Calculate the measure of each **INTERIOR**, **CENTRAL**, and **EXTERIOR** angle for each regular polygon.

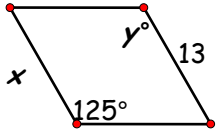
- | | |
|-------------|----------|
| 8) Triangle | 8) _____ |
| | _____ |
| | _____ |
| 9) Octagon | 9) _____ |
| | _____ |
| | _____ |

Identify the value of **x** and **y** in each quadrilateral.

- | | |
|---|-----------------|
| 10)  | 10) $x =$ _____ |
| | $y =$ _____ |

- | | |
|---|-----------------|
| 11)  | 11) $x =$ _____ |
| | $y =$ _____ |

For questions 12 and 13, determine the value of x and y if the polygon is a parallelogram.



12) $x =$ _____

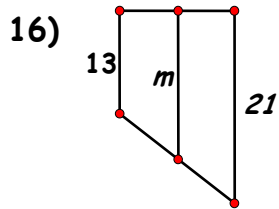
13) $y =$ _____

Construct the polygon listed below. Be sure to mark each polygon appropriately.

14) Convex, Regular, Hexagon

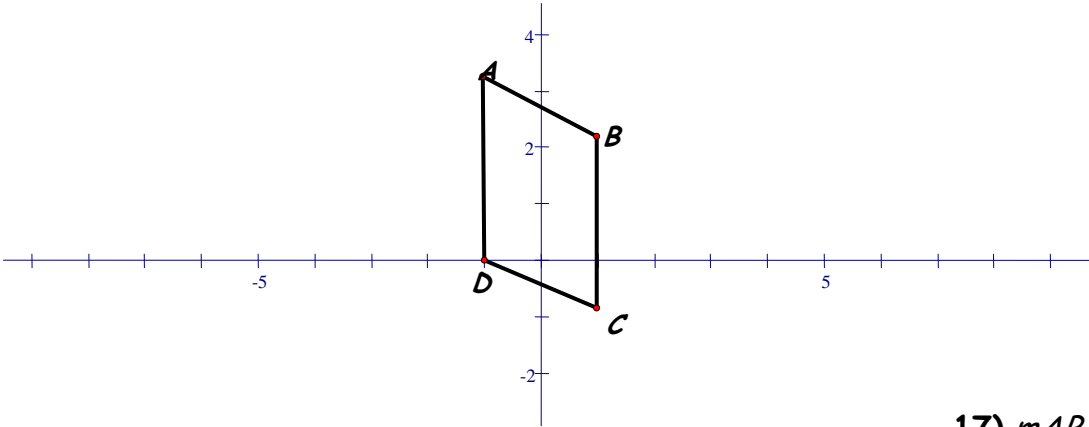
15) Concave, Nonagon

Determine the length of the midsegment of the trapezoid below.



16) _____

17) Show that the polygon below is a parallelogram by using the slope and distance formula.



17) $m_{AB} = \underline{\hspace{2cm}}$
 $m_{DC} = \underline{\hspace{2cm}}$

Slope of $\overline{AB} = \underline{\hspace{2cm}}$

Slope of $\overline{DC} = \underline{\hspace{2cm}}$