Day 5: Properties of Parallelograms

Date_____

Formulas to know:

1) Distance Formula:

   Midpoint Formula:

2) Now today we need one more equation...

   Slope:

Properties of Parallelograms:

For each property below draw a sketch of what it looks like.

3) Opposite sides are _____ and _____.

   We could prove this using the _____ and _____ formulas.

4) Opposite angles are _____.

   This means that they are _____.

5) Consecutive angles are _____.

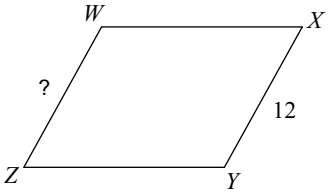
   This means that they _____.

6) Diagonals _____ each other.

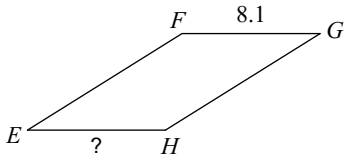
   This means they intersect at the _____.

Find the measurement indicated in each parallelogram.

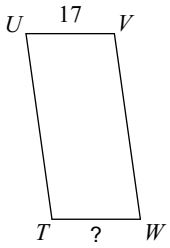
7)



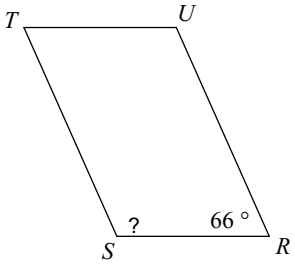
8)



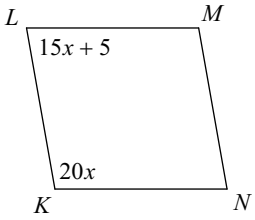
9)



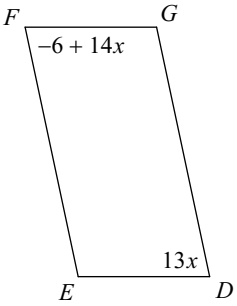
10)



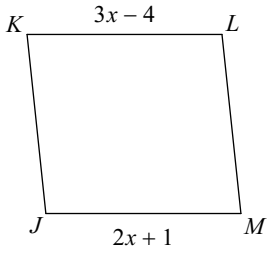
11) Find $m\angle M$



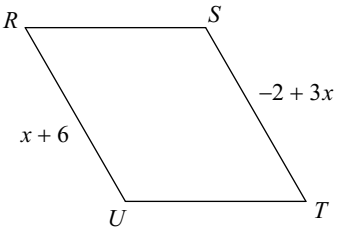
12) Find $m\angle E$



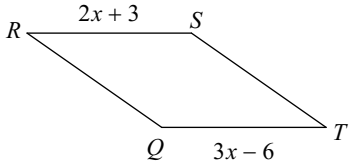
13) Find KL



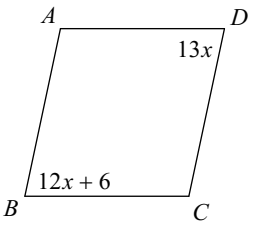
14) Find ST



15) Find RS

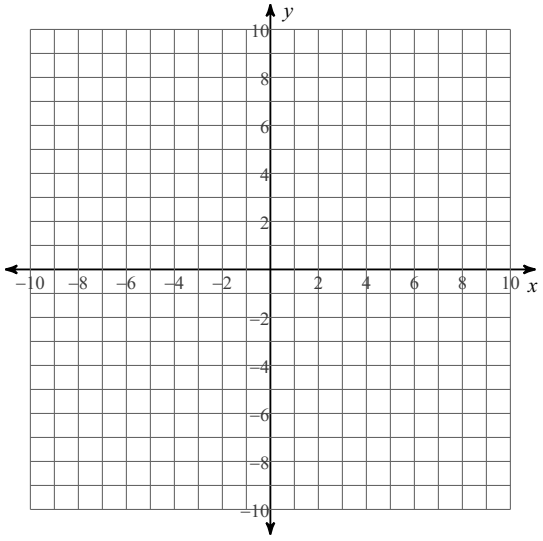


16) Find $m\angle D$



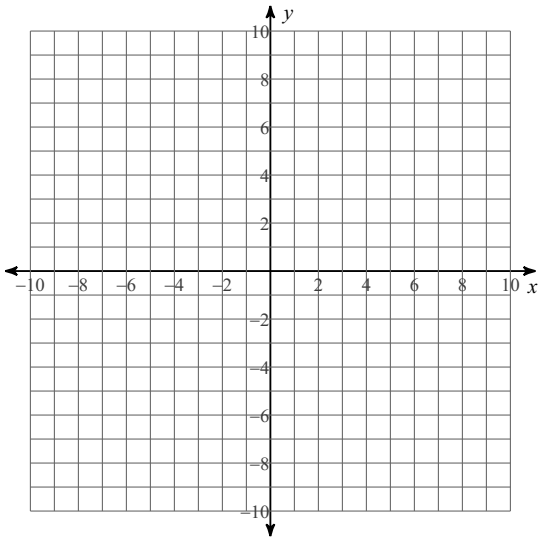
Determine whether the quadrilateral is a parallelogram.

17) Draw quadrilateral $ABCD$ which has the following vertices: $A\,(-4, 4)$, $B\,(2, 8)$, $C\,(3, 4)$ and $D\,(-3, 0)$.



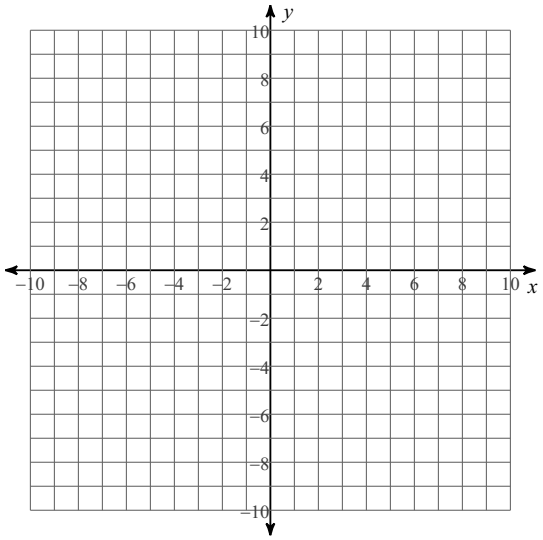
18) Verify your answer in #17 using the DISTANCE.

19) Draw quadrilateral $QRST$ which has the following vertices: $Q\,(-2, 4)$, $R\,(3, 6)$, $S\,(5, 3)$ and $T\,(-1, 1)$.



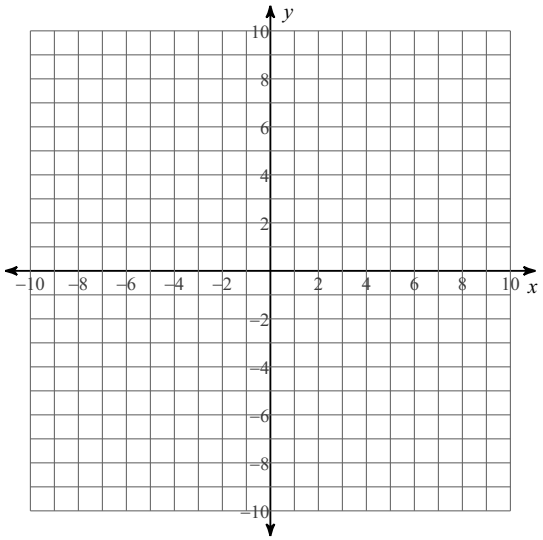
20) Verify your answer in #19 using SLOPE.

21) Draw quadrilateral $ABCD$ which has the following vertices: $A\,(-2, 2)$, $B\,(2, 3)$, $C\,(4, 1)$ and $D\,(0, 0)$.



22) Verify your answer in #21 using the MIDPOINTS OF THE DIAGONALS.

23) Draw quadrilateral $ZYXW$ which has the following vertices: $Z\,(-4, 3)$, $Y\,(-1, -6)$, $X\,(1, 1)$ and $W\,(2, 5)$.



24) Verify your answer in #23 using TWO PROPERTIES of parallelograms.