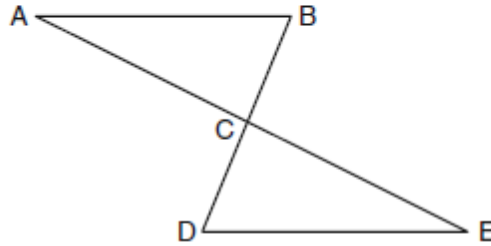


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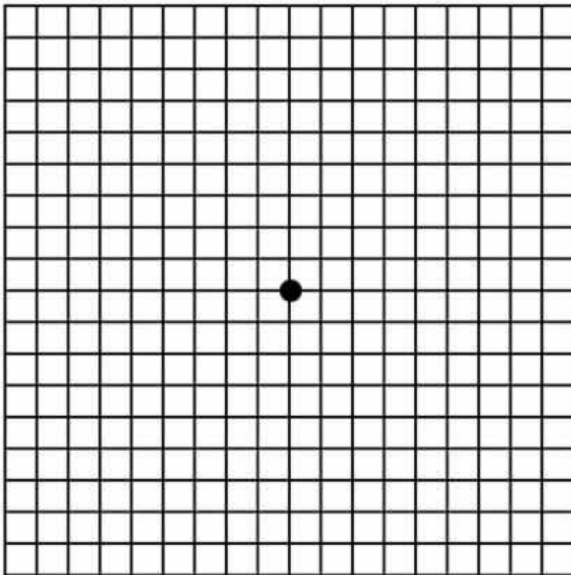
Geometry
Unit 8
PS

- 1) Given: Quadrilateral $ABCD$ with $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{BC}$, and diagonal \overline{BD} is drawn
Prove: $\angle BDC \cong \angle ABD$

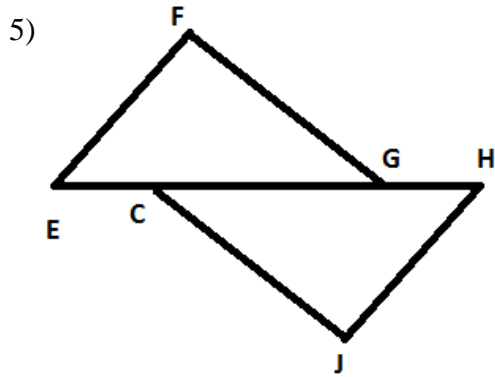
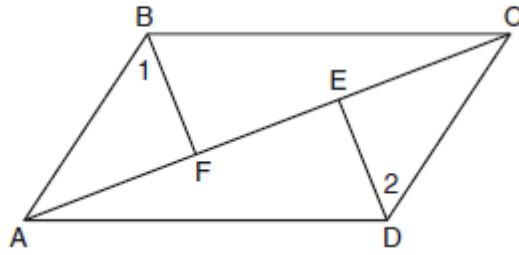
- 2) Given: $\triangle ABC$ and $\triangle EDC$, C is the midpoint of \overline{BD} and \overline{AE}
Prove: $\overline{AB} \parallel \overline{DE}$



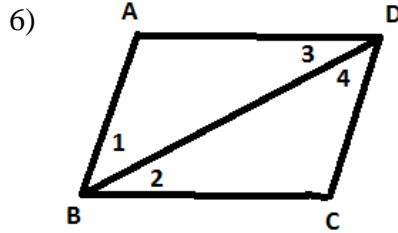
- 3) Quadrilateral $MATH$ has coordinates $M(1,1)$, $A(-2,5)$, $T(3,5)$, and $H(6,1)$. Prove that quadrilateral $MATH$ is a rhombus and prove that it is *not* a square.



- 4) Given: Quadrilateral $ABCD$, diagonal \overline{AFEC} , $\overline{AE} \cong \overline{FC}$, $\overline{BF} \perp \overline{AC}$, $\overline{DE} \perp \overline{AC}$, $\angle 1 \cong \angle 2$
 Prove: $ABCD$ is a parallelogram.

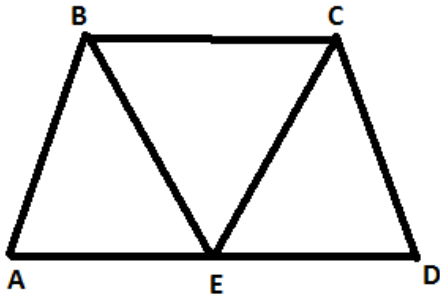


- Given: $\overline{EF} \parallel \overline{HJ}$
 $\overline{CJ} \parallel \overline{FG}$
 $\overline{EC} \cong \overline{GH}$
 Prove: $\overline{EF} \cong \overline{JH}$



- Given: \overline{BD} bisects $\angle ABC$
 \overline{BD} bisects $\angle ADC$
 $\angle ABC \cong \angle ADC$
 Prove: $ABCD$ is a \square

7)



Given: $\overline{BC} \parallel \overline{AD}$

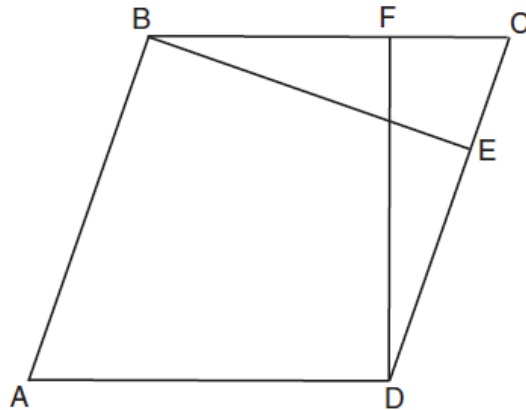
$\triangle EBC$ is isos with $\angle E$ as vertex

E is the midpoint of \overline{AD}

Prove: ABCD is an isos trapezoid

8)

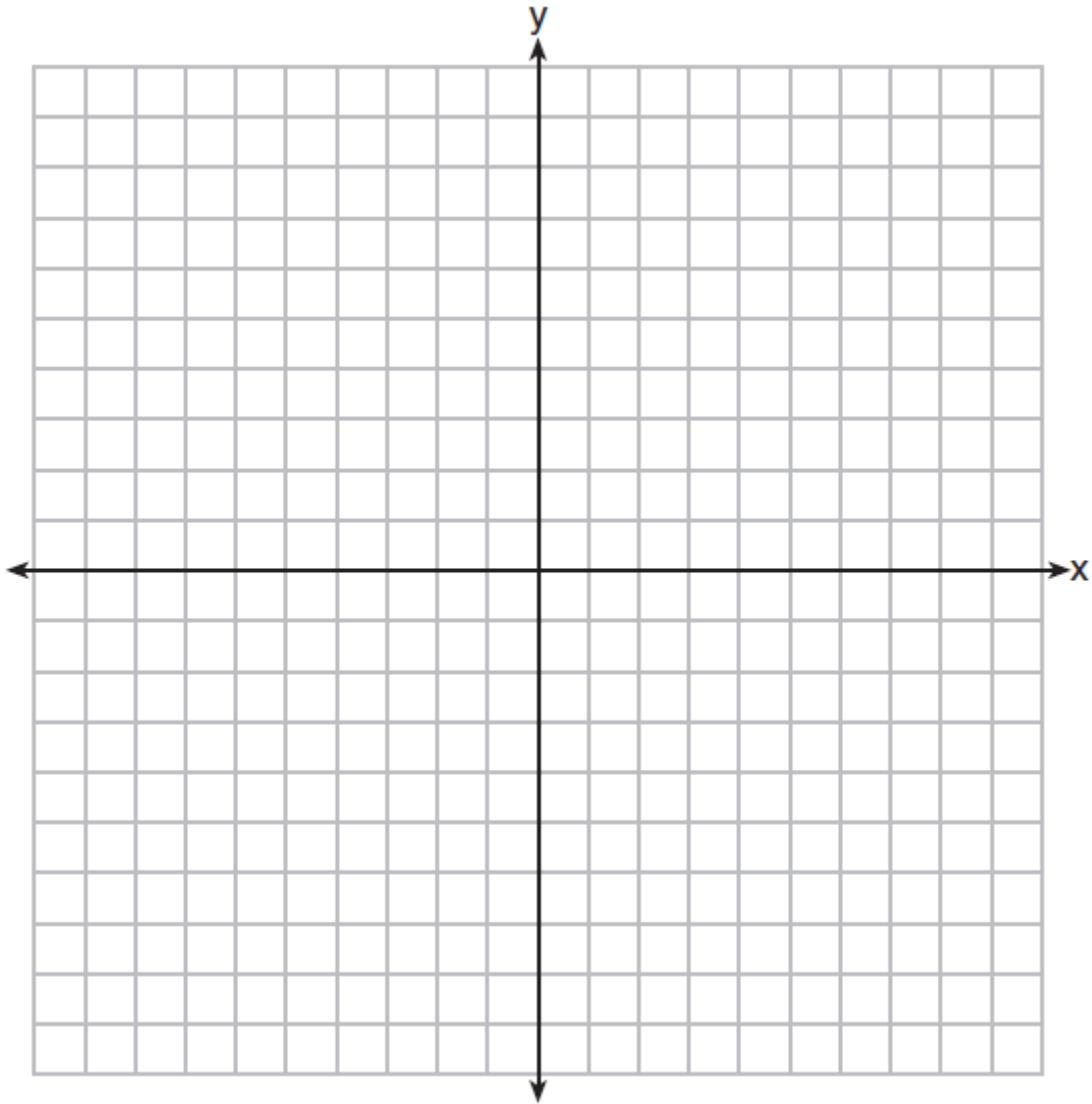
In the diagram of parallelogram ABCD below, $\overline{BE} \perp \overline{CED}$, $\overline{DF} \perp \overline{BFC}$, and $\overline{CE} \cong \overline{CF}$.



Prove ABCD is a rhombus.

9)

In the coordinate plane, the vertices of $\triangle RST$ are $R(6, -1)$, $S(1, -4)$, and $T(-5, 6)$.
Prove that $\triangle RST$ is a right triangle.



10) Using the previous problem:

State the coordinates of point P such that quadrilateral $RSTP$ is a rectangle.

Prove that your quadrilateral $RSTP$ is a rectangle.