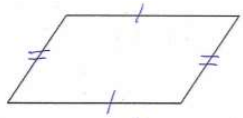
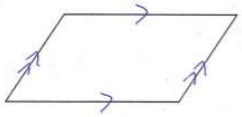
Name _____ Date _____
Mr. Schlansky Geometry

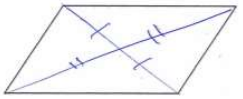
Quadrilateral Properties

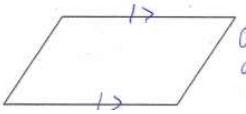
1. A quadrilateral whose diagonals bisect each other and are perpendicular is a
1) rhombus
2) rectangle
3) trapezoid
4) parallelogram



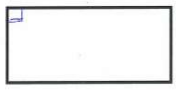


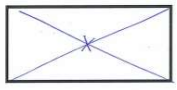
2. If the diagonals of a quadrilateral do *not* bisect each other, then the quadrilateral could be a
1) rectangle
2) rhombus
3) square
4) trapezoid

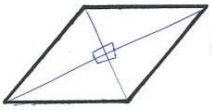




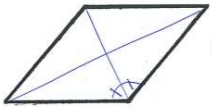
3. A quadrilateral whose diagonals are always congruent and perpendicular to each other must be a
1) rectangle
2) rhombus
3) square
4) trapezoid

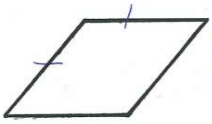






4. Which quadrilateral has diagonals that always bisect its angles and also bisect each other?
1) rhombus
2) rectangle
3) parallelogram
4) isosceles trapezoid





5. Which quadrilateral has diagonals that always are congruent and also bisect each other?
1) isosceles trapezoid
2) rectangle
3) rhombus
4) parallelogram

6. The diagonals of a quadrilateral are congruent but do not bisect each other. This quadrilateral is
1) an isosceles trapezoid
2) a parallelogram
3) a rectangle
4) a rhombus

7. Given three distinct quadrilaterals, a square, a rectangle, and a rhombus, which quadrilaterals must have perpendicular diagonals?
1) the rhombus, only
2) the rectangle and the square
3) the rhombus and the square
4) the rectangle, the rhombus, and the square

8. A parallelogram must be a rhombus when its
1) Diagonals are congruent.
2) Opposite sides are parallel.
3) Diagonals are perpendicular.
4) Opposite angles are congruent.

9. A parallelogram must be a rectangle when its
1) diagonals are perpendicular
2) diagonals are congruent
3) opposite sides are parallel
4) opposite sides are congruent

10. A rectangle must be a square when its
1) angles are right angles
2) diagonals are congruent
3) diagonals are perpendicular to each other
4) opposite sides are parallel

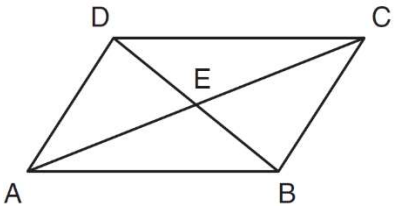
11. A rhombus must be a square when its
1) consecutive sides are congruent
2) diagonals are congruent
3) opposite angles are congruent
4) diagonals are perpendicular to each other

12. A parallelogram must be a rectangle when its
1) consecutive sides are congruent
2) opposite angles are congruent
3) angles are right angles
4) opposite sides are parallel

13. Which of the following properties does not make a parallelogram a rhombus?
1) diagonals bisect the angles
2) diagonals are perpendicular to each other
3) opposite angles are congruent
4) consecutive sides are congruent

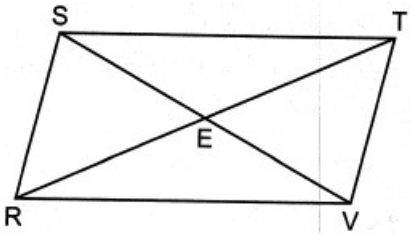
14. Which of the following properties does not make a rhombus a square?
1) Diagonals are congruent
2) Diagonals are perpendicular to each other
3) Angles are right angles
4) Consecutive angles are congruent

15. In the diagram below, parallelogram *ABCD* has diagonals $\overline{AC}$ and $\overline{BD}$ that intersect at point *E*.



Which expression is *not* always true?
1) $\angle DAE \cong \angle BCE$
2) $\angle DEC \cong \angle BEA$
3) $\overline{AC} \cong \overline{DB}$
4) $\overline{DE} \cong \overline{EB}$

16. In the diagram below of parallelogram *RSTV*, diagonals $\overline{SV}$ and $\overline{RT}$ intersect at *E*.



Which statement is always true?
1) $\overline{SR} \cong \overline{RV}$
2) $\overline{RT} \cong \overline{SV}$
3) $\overline{SE} \cong \overline{RE}$
4) $\overline{RE} \cong \overline{TE}$

17. If *ABCD* is a parallelogram, which statement would prove that *ABCD* is a rhombus?

1) $\angle ABC \cong \angle CDA$
2) $\overline{AC} \cong \overline{BD}$
3) $\overline{AC} \perp \overline{BD}$
4) $\overline{AB} \perp \overline{CD}$

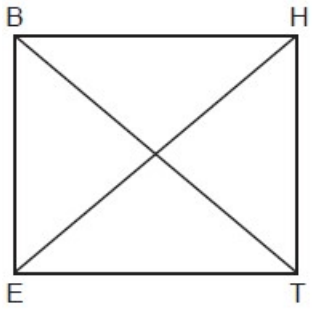
18. If *ABCD* is a parallelogram, which statement would prove that *ABCD* is a rectangle?

1) $\angle ABC \cong \angle CDA$
2) $\overline{AC} \cong \overline{BD}$
3) $\overline{AC} \perp \overline{BD}$
4) $\overline{AB} \perp \overline{CD}$

19. In rectangle *ABCD*, diagonals $\overline{AC}$ and $\overline{BD}$ intersect at *E*. Which statement does *not* prove rectangle *ABCD* is a square?

1) $\overline{AC} \cong \overline{DB}$
2) $\overline{AB} \cong \overline{BC}$
3) $\overline{AC} \perp \overline{DB}$
4) $\overline{AC}$ bisects $\angle DCB$

20. Parallelogram *BETH*, with diagonals $\overline{BT}$ and $\overline{HE}$, is drawn below. What additional information is sufficient to prove that *BETH* is a rectangle?



1) $\overline{BT} \perp \overline{HE}$
2) $\overline{BE} \parallel \overline{HT}$
3) $\overline{BT} \cong \overline{HE}$
4) $\overline{BE} \cong \overline{ET}$

21. Parallelogram *EATK* has diagonals $\overline{ET}$ and $\overline{AK}$. Which information is always sufficient to prove *EATK* is a rhombus?

1) $\overline{EA} \perp \overline{AT}$
2) $\overline{EA} \cong \overline{AT}$
3) $\overline{ET} \cong \overline{AK}$
4) $\overline{ET} \cong \overline{AT}$

22. Which congruence statement is sufficient to prove parallelogram *MARK* is a rhombus?

1) $\overline{MA} \cong \overline{MK}$
2) $\overline{MA} \cong \overline{KR}$
3) $\angle K \cong \angle A$
4) $\angle R \cong \angle A$

23. If *ABCD* is a parallelogram, which additional information is sufficient to prove that *ABCD* is a rectangle?

1) $\overline{AB} \cong \overline{BC}$
2) $\overline{AB} \parallel \overline{CD}$
3) $\overline{AC} \cong \overline{BD}$
4) $\overline{AC} \perp \overline{BD}$

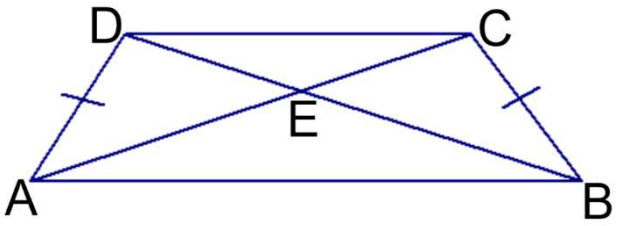
24. In quadrilateral *TOWN*, $\overline{OW} \cong \overline{TN}$ and $\overline{OT} \cong \overline{WN}$. Which additional piece of information is sufficient to prove quadrilateral *TOWN* is a rhombus?

1) $\overline{ON} \perp \overline{TW}$
2) $\overline{TO} \perp \overline{OW}$
3) $\overline{OW} \parallel \overline{TN}$
4) $\overline{ON}$ and $\overline{TW}$ bisect each other

26. In the diagram below, isosceles trapezoid ABCD has diagonals $\overline{AC}$ and $\overline{BD}$ that intersect at point *E*.

Which expression is *not* always true?

1) $\overline{AC} \cong \overline{DB}$
2) $\overline{DC} \parallel \overline{AB}$
3) $\overline{DE} \cong \overline{AE}$
4) $\overline{AD} \cong \overline{CB}$



27. Which statement would prove rectangle *CAMI* is a square?

1) $\overline{CA} \cong \overline{AM}$
2) $\overline{CM} \cong \overline{AI}$
3) $\overline{CA} \cong \overline{MI}$
4) $\overline{MA} \perp \overline{AC}$

28. Which statement would prove parallelogram *MARK* is a rectangle?

1) $\overline{MA} \cong \overline{MK}$
2) $\overline{MA} \cong \overline{RK}$
3) $\overline{MR} \perp \overline{AK}$
4) $\overline{MA} \perp \overline{AK}$