**Quiz 2.2 Study Guide**

1.  A quadrilateral has diagonals that always bisect the angles to which they are drawn?
    a.  rectangle        b.  rhombus                c.  parallelogram        d.  trapezoid

2.  Match the property with the quadrilateral – use all three choices and each choice can only be used once.
    Diagonals are congruent:_____                A. Parallelogram
    Diagonals are perpendicular: _____           B. Rectangle
    Diagonals bisect each other: _____           C. Rhombus

3.  Match the property with the quadrilateral – use all three choices and each choice can only be used once.
    Consecutive angles are congruent: _____          A. Isosceles trapezoid
    Opposite angles are supplementary: _____         B. Parallelogram
    Opposite angles are congruent: _____             C.  Rectangle

4.  Which quadrilateral has diagonals that are *not* always congruent to each other.
    a.  rectangle        b.  isosceles trapezoid          c.  rhombus                d.  square

5.  A parallelogram must be a rectangle if the
    a.  diagonals are congruent
    b.  diagonals are perpendicular
    c.  opposite angles are congruent
    d.  opposite sides are congruent

6.  In the parallelogram $ABCD$  $m\angle A = 2x + 50$ and $m\angle B = 3x - 20$.  Find the measure of angle *B.*

7.  The measures of the angles of a quadrilateral are in a ratio of 5 : 6 : 10 : 15.  Find the degrees measure in the *largest angle* of the quadrilateral.

8.  Find the length of the side of a rhombus whose diagonals are 10 and 24.

9.  In isosceles trapezoid $QRTS$,  $\overline{QR}$ and $\overline{TS}$ are the bases.  If $m\angle Q = 5x + 3$ and $m\angle R = 7x - 15$, find $m\angle R$.

10. In the accompanying diagram of rhombus *ABCD,* diagonals $\overline{AC}$ and $\overline{BD}$ intersect at point *E* and $m\angle DBA = 65°$, find $m\angle DCE$.
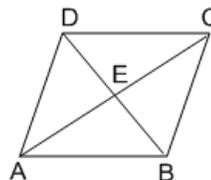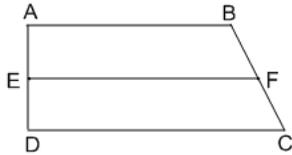
11. In quadrilateral $ABCD$, $m\angle A = 30°$, $m\angle B = 30°$, $m\angle C = 150°$, and $m\angle D = 150°$. What type of quadrilateral is $ABCD$? Explain why?
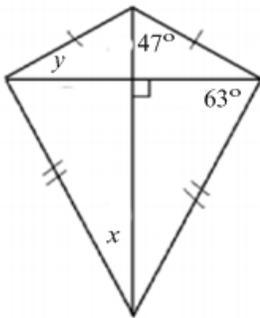
12. In the diagram below, $ABCD$ is an isosceles trapezoid with $\overline{AD} \cong \overline{BC}$. If $BC$ = 13, $AB$ =20 and $DC$ = 30, find the length of the altitude $\overline{AE}$.



13. In the diagram below, $\overline{EF}$ is the median of trapezoid $ABCD$. If $BC$ =10, $AE$ = 4, $AB$ =16 and $DC$ = 20, find the perimeter of $ABFE$.
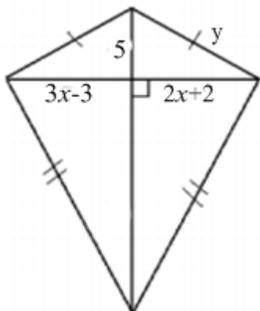


14. Find $x$ and $y$.



$x =$ _____    $y =$ _____

15. Find $x$ and $y$.



$x =$ _____    $y =$ _____