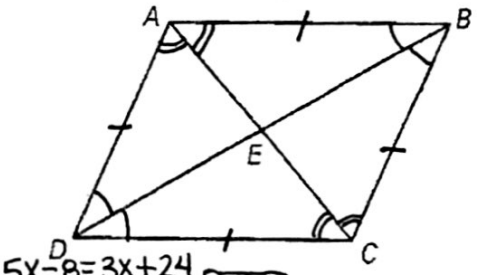
Name: _____ Date: _____

Decide whether the statement is *sometimes*, *always*, or *never* true.

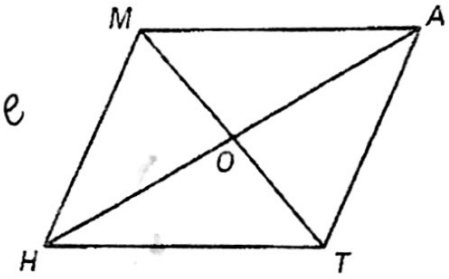
1. A rhombus is equilateral. always
2. The diagonals of a rectangle are perpendicular. sometimes (if the rectangle is a square)
3. The opposite angles of a rhombus are supplementary. sometimes (if the rhombus is a square)
4. A square is a rectangle. always
5. The diagonals of a rectangle bisect each other. always
6. The consecutive angles of a square are supplementary. always

Quadrilateral *ABCD* is a rhombus.



7. If $m\angle BAE = 32°$, find $m\angle ECD$. 32°
8. If $m\angle EDC = 43°$, find $m\angle CBA$. 86°
9. If $m\angle EAB = 57°$, find $m\angle ADC$. 66°
10. If $m\angle BEC = 3x - 15°$, solve for x. $3x-15=90$, $3x=105$, $x=35$
11. If $m\angle ADE = 5x - 8°$ and $m\angle CBE = 3x + 24$, solve for x. $5x-8=3x+24$, $2x=32$, $x=16$
12. If $m\angle BAD = 4x + 14°$ and $m\angle ABC = 2x + 10°$, solve for x. $4x+14+2x+10=180$, $6x+24=180$, $6x=166$, $x=26$

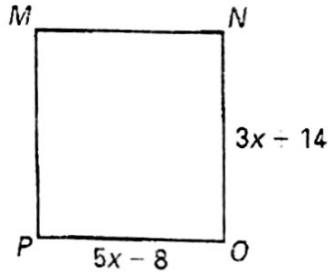
***MATH* is a parallelogram with diagonals intersecting at O. Identify the type depending upon the given conditions.**



13. $\overline{MT} \perp \overline{AH}$ rhombus
14. $\overline{MT} \cong \overline{AH}$ rectangle
15. $\overline{MA} \perp \overline{AT}, \overline{AM} \cong \overline{MH}$ square
16. $\overline{MO} \cong \overline{OT}, \overline{AO} \cong \overline{OH}$ parallelogram

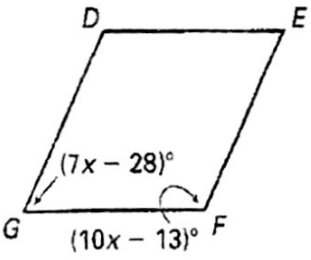
Find the value of *x*.

17. *MNOP* is a square.



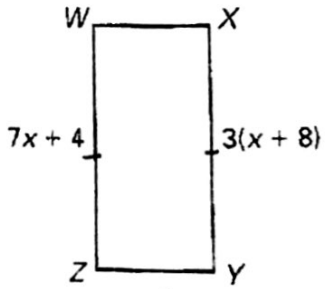
$3x+14=5x-8$, $22=2x$, $x=11$

18. *DEFG* is a rhombus.



$7x-28+10x-13=180$, $17x-41=180$, $17x=221$, $x=13$

19. *WXYZ* is a rectangle.



$7x+4=3(x+8)$, $7x+4=3x+24$, $4x=20$, $x=5$