

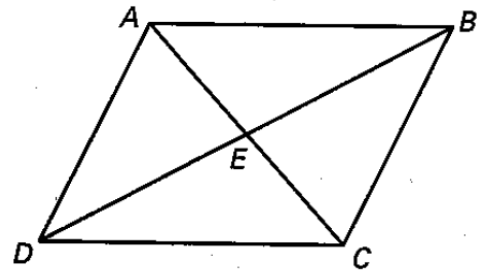
Day 6 – Properties of Rhombi, Squares, Trapezoids and Kites

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

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

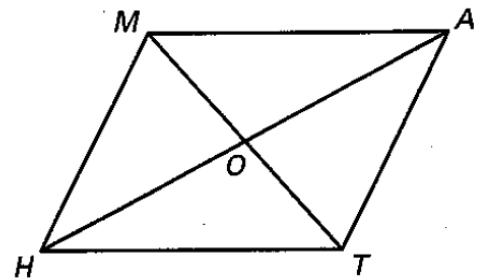
Quadrilateral *ABCD* is a rhombus.

7. If $m\angle BAE = 32^\circ$, find $m\angle ECD$.
8. If $m\angle EDC = 43^\circ$, find $m\angle CBA$.
9. If $m\angle EAB = 57^\circ$, find $m\angle ADC$.
10. If $m\angle BEC = 3x - 15^\circ$, solve for x .
11. If $m\angle ADE = 5x - 8^\circ$ and $m\angle CBE = 3x + 24$, solve for x .
12. If $m\angle BAD = 4x + 14^\circ$ and $m\angle ABC = 2x + 10^\circ$, solve for x .



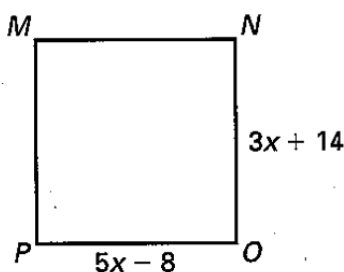
***MATH* is a parallelogram with diagonals intersecting at *O*. Identify the type depending upon the given conditions.**

- | | |
|--|--|
| 13. $\overline{MT} \perp \overline{AH}$ | 14. $\overline{MT} \cong \overline{AH}$ |
| 15. $\overline{MA} \perp \overline{AT}, \overline{AM} \cong \overline{MH}$ | 16. $\overline{MO} \cong \overline{OT}, \overline{AO} \cong \overline{OH}$ |

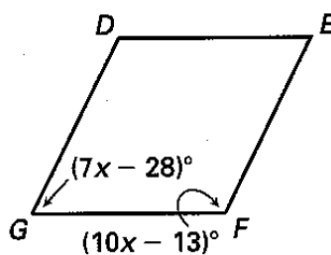


Find the value of x .

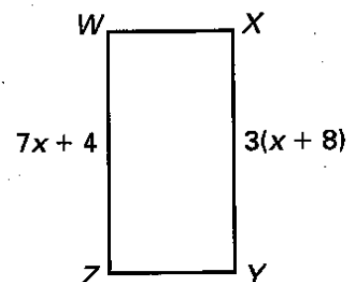
17. *MNOP* is a square.



18. *DEFG* is a rhombus.

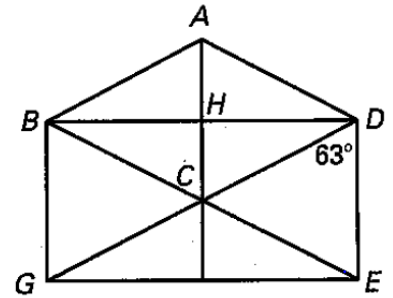


19. *WXYZ* is a rectangle.



In the diagram shown, $BDEG$ is a rectangle and $ABCD$ is a rhombus. Find the measure of the indicated angle.

- | | |
|-----------------|-----------------|
| 1. $\angle GDB$ | 2. $\angle ABC$ |
| 3. $\angle DAB$ | 4. $\angle BCG$ |
| 5. $\angle GCE$ | 6. $\angle DEG$ |
| 7. $\angle AHB$ | 8. $\angle DGB$ |



Find the length or angle measure.

- | | |
|---|--|
| 14. $WXYZ$ is a square.
$WX = 1 - 10x$
$YZ = 14 + 3x$
$XY = \underline{\quad ? \quad}$ | 15. $WXYZ$ is a rhombus.
$m\angle X = 24(10 - x)^\circ$
$m\angle Z = 6(x + 15)^\circ$
$m\angle Y = \underline{\quad ?^\circ \quad}$ |
|---|--|