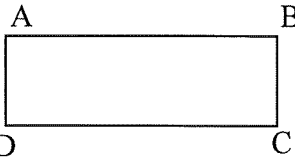
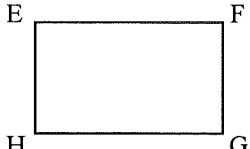


GOALS:

- Recognize and apply properties of the sides and angles of rectangles.
- Recognize and apply properties of the diagonals of rectangles.
- Use tests to distinguish between rectangles and other quads/parallelograms.

Rectangle:

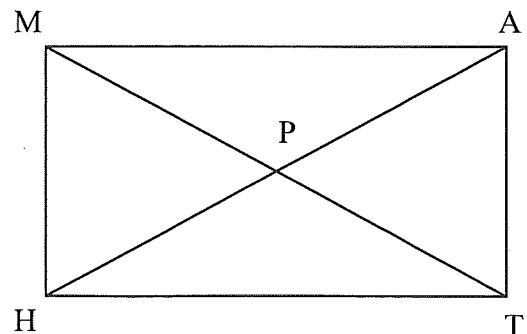


| Properties of Rectangles | Example | Figure |
|---|---------|---|
| <p>1. Since a rectangle is a type of <i>parallelogram</i>, it has all the properties of parallelograms! List these: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>In addition to these properties, a rectangle has the following 2 "special" properties also:</p> | |  |
| <p>2. All four angles are _____ angles.</p> | |  |
| <p>3. Its diagonals are _____.</p> | | |

Example 1:

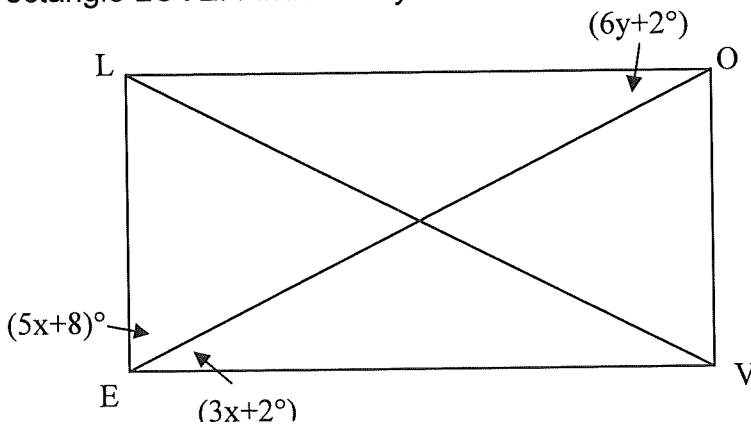
a) MATH is a rectangle. If $MT=7x-4$, and $HP=3x+2$, find x .

b) If $MH=32$, find the area of rectangle MATH.
(Round to the nearest whole number.)



Example 2:

Given rectangle LOVE. Find x and y .



| Tests for Rectangles; if <u>either</u> of the following are true, the figure is a rectangle: | Example | Figure |
|--|---------|--------|
| 1. All 4 angles of the quadrilateral are _____ angles. | | |
| 2. The _____ of a \square are _____. | | |

Example 3:

Given the following vertices, is \square ABCD a rectangle? (To use test #1, use the _____ formula; to use test #2, use the _____ formula.)

$A(-2,1)$, $B(4,3)$, $C(5,0)$, and $D(-1,-2)$