Geometry

5.8 Coordinate Proofs

Coordinate Proof

Place geometric ____________ in a _____________________ plane (__________)
When _________________ are used for the _________________________, the result is true for _____ figures of that type
Use formulas to prove things

- ________________ formula

$$Midpt = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

- ________________ formula

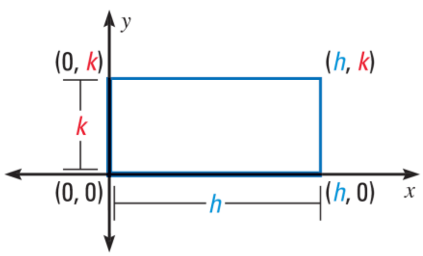
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

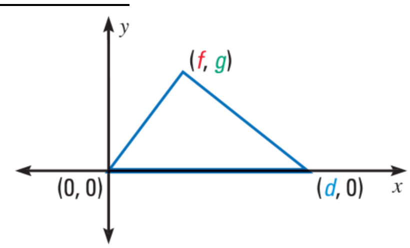
- ________________ formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

1. Use the ________ as a _________ or _______.
2. Place at least one _________ of the polygon on an _________.
3. Usually keep the _________ within the ________________.
4. Use _______________ that make __________________ as _________ as possible.

- You will prove things by ______________ things like ________, ___________, and ____________





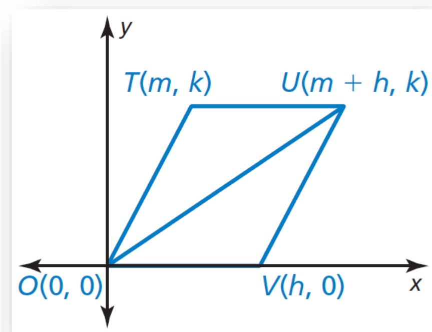
Place a **square** in a coordinate plane so that it is convenient for finding side lengths. Assign coordinates.

Place a **right triangle** in a coordinate plane so that it is convenient for finding side lengths. Assign coordinates.

Place an isosceles triangle in a coordinate plane with vertices $P(-2a, 0)$, $Q(0, a)$, and $R(2a, 0)$. Then find the side lengths and the coordinates of the midpoint of each side.

Given: Coordinates of vertices of quadrilateral $OTUV$

Prove: $\angle TOU \cong \angle VUO$



Assignment: 277 #2, 4, 6, 8, 11, 12, 15, 16, 22, 23, 25, 26, 29, 32, 33 = 15 total