Cornell Notes

Name: Eduardo Delgado

Date: 02/13/2012

Topic:

Class/Suject: Geometry Po2 Mrs. Asberry

(9:55)

(9:25)

Warm-up: coordinate proof

Check Homework

#1. (-b, c)
(a, 0)

$d = \sqrt{(-b-a)^2 + (c-0)^2}$

$= \sqrt{(-b-a)^2 + c^2}$

$= \sqrt{a^2 + 2ab + b^2 + c^2}$

(-a, 0)
(b, c)

$d = \sqrt{(-a-b)^2 + (0-c)^2}$

$= \sqrt{(-a-b)^2 + c^2}$

$= \sqrt{a^2 + 2ab + b^2 + c^2}$

Same therefore diagnals $\cong$

(9:30) Notes

Indirect reasoning + Proofs
(or proof by contradiction)

Home Work
Assignment #4-1
pp. 283-284 (10-22 even)

Ex. 3

Prove: A triangle can't contain 2 right angles
(1st thing to do is assume negation is true)
- b/c you want to prove Δ can't contain 2 right angles, you assum a triangle can contain 2 right angles

Ex. 4

Identify 2 statements that contradict each other
I. P, Q, R are coplanar
II. P Q R are collinear
III. m∠PQR = 60°

if 3 distinct points are collinear, they form a straight angle, so m∠PQR can't equal 60.
Statements II + III contradict one another.

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Prove: $\triangle ABC$ can't contain 2 obtuse angles

Step 1: Assume $\angle A$ + $\angle B$ are obtuse

Step 2: if $\angle A$ + $\angle B$ obtuse, $m\angle A > 90$ + $m\angle B > 90$

So $m\angle A + m\angle B > 180$

therefore there'd be 3 angles over $180°$

So $\triangle ABC$ can't contain 2 obtuse angles

Students learned how to solve indirect proofs by contradictions and indirect reasoning.

NAME______________________________ DATE ____________

Practice

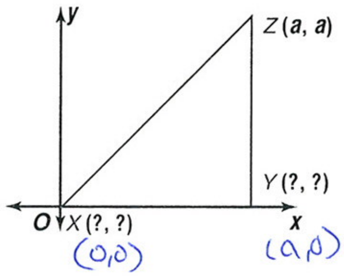
Warm-up

Student Edition
Pages 666–671

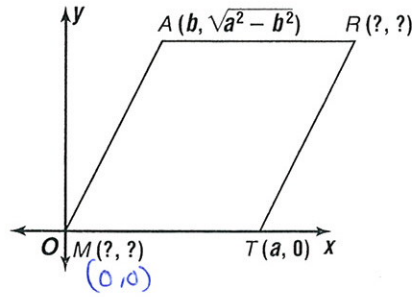
Coordinate Proof

Name the missing coordinates in terms of the given variables.

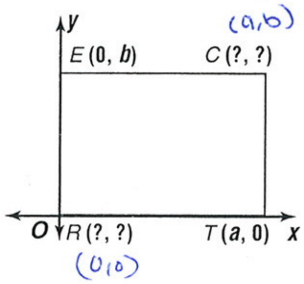
1. $\triangle XYZ$ is isosceles and right.



2. *MART* is a rhombus. $(a+b, \sqrt{a^2-b^2})$

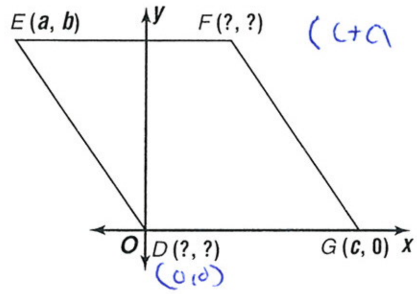


3. *RECT* is a rectangle.

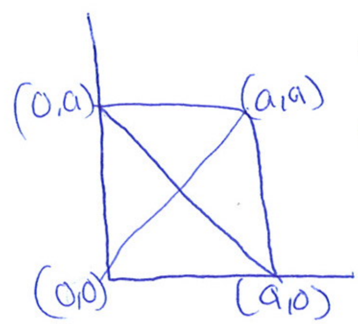


4. *DEFG* is a parallelogram.

$(c+a \quad , b)$



5. Use a coordinate proof to prove that the diagonals of a rhombus are perpendicular. Draw the diagram at the right.



$\text{slope} = \frac{\Delta y}{\Delta x} = \frac{a-0}{a-0} = \frac{a}{a} = 1$

$\text{Slope} = \frac{a-0}{0-a} = \frac{a}{-a} = -1$

$1 \cdot -1 = -1$

Since product of the slopes = -1, the diagnals are perpindicular.