1.4

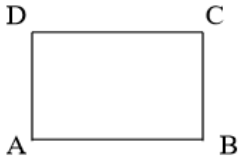
Monday, August 22, 2016 9:04 AM

Geo Honors
Notes

1.4 Beginning Proofs

Given: ∠A is a right angle
∠C is a right angle

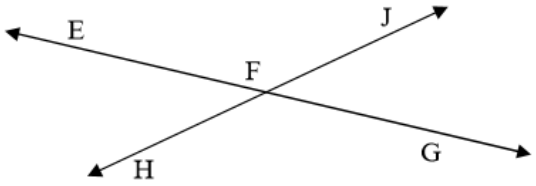
Prove: ∠A ≅ ∠C



Statements	Reasons
1. ∠A is a right angle ∠C is a right angle	1. Given
2. ∠A ≅ ∠C	2. If 2 angles are right angles, then they are ≅.

Given: Diagram as shown

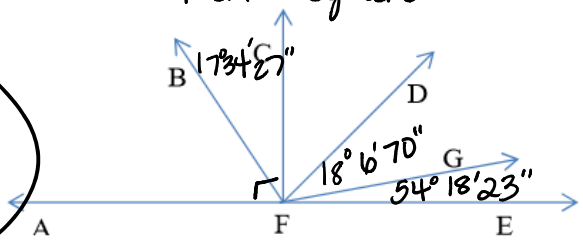
Conclusion: ∠EFG ≅ ∠HFJ



Statements	Reasons
1. Diagram	1. Given
2. ∠EFG is a straight angle	2. Assumed from diagram
3. ∠HFJ is a straight angle	3. Assumed from diagram
4. ∠EFG ≅ ∠HFJ	4. If 2 angles are straight angles, then they are ≅.

3. Given: ∠AFC is a right angle
∠BFC = 17°34'27"
∠DFG = 18° 6'70"
∠GFE = 54° 18'23"

Prove: ∠AFB ≅ ∠DFE

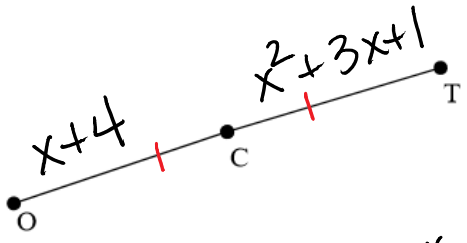


Statements	Reasons
1.	1. Given
2. m∠AFC = 90°	2. If an angle is a right angle, then it is 90°.
3. m∠AFB = 72°25'33"	3. Subtraction
4. m∠DFE = 72°25'33"	4. Addition
5. ∠AFB ≅ ∠DFE	5. If 2 angles have the same measure, then they are ≅.

4. Given: $OC = x + 4$
$CT = x^2 + 3x + 1$
$\overline{OC} \cong \overline{CT}$

How long is CT?

CT = 5, 1

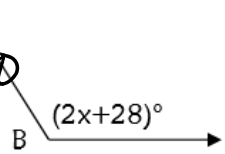


$x+4 = x^2+3x+1$
$0 = x^2+2x-3$
$0 = (x-1)(x+3)$
$x-1=0 \quad x+3=0$
$x = 1, -3$

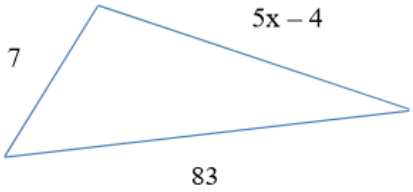
5. $\angle B$ is obtuse.

a. What are the restrictions on m$\angle B$? $90 < 2x+28 < 180$

b. What are the restrictions on x? $62 < 2x < 152$
$31 < x < 76$



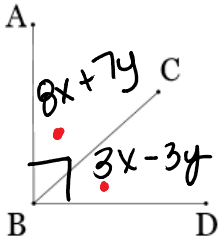
6. State the restrictions on x in the triangle below.



$76 < 5x-4 < 90$
$80 < 5x < 94$
$16 < x < \frac{94}{5}$

7. Given: $\angle ABD$ is a right angle
$\angle ABC = (8x+7y)^\circ$
$\angle CBD = (3x-3y)^\circ$
$\angle ABC \cong \angle CBD$

Find x and y



$8x+7y+3x-3y = 90$
$8x+7y = 3x-3y$

$\begin{cases} 11x+4y=90 \\ 5x+10y=0 \end{cases}$