

Write eqn thru  $(-1, -2)$ ;  
 $t$  to  $y = \frac{1}{3}x + 1$

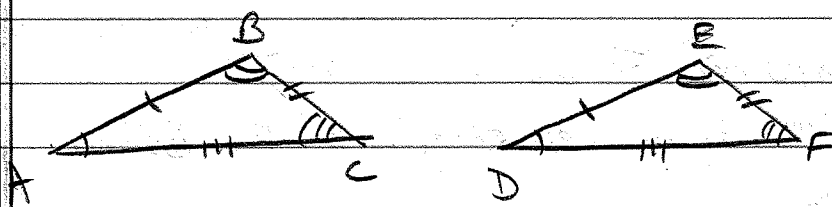
$3x + 1$   
 $x = 59$

3) Classify by sides & angles  
 Isosceles  
 Obtuse

$y = -3x - 5$

## 4.2 Congruence & Triangles

Congruent figures - when all corresponding sides & angles are =

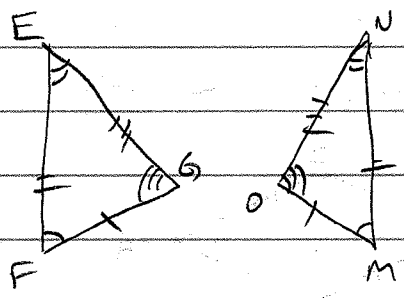


Corresponding Parts

$\angle A \cong \angle D$	$\overline{AB} \cong \overline{DE}$	} $\triangle ABC \cong \triangle DEF$
$\angle B \cong \angle E$	$\overline{BC} \cong \overline{EF}$	
$\angle C \cong \angle F$	$\overline{AC} \cong \overline{DF}$	

### Example

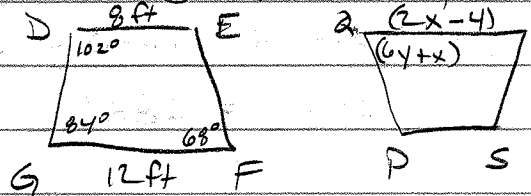
1) Name the corresponding parts (sides & angles)



$\overline{CF} \cong \overline{LM}$	$\overline{FG} \cong \overline{OM}$
$\angle E \cong \angle N$	$\overline{EF} \cong \overline{MN}$
$\angle G \cong \angle O$	$\overline{EG} \cong \overline{NO}$

So  $\triangle EFG \cong \triangle NMO$

2) Given  $\triangle EFG \cong \triangle SPQR$ , find  $x$  &  $y$



Find  $x$ , know  $\overline{QR} \cong \overline{FG}$

$QR = FG$   
 $2x - 4 = 12$   
 $+4 \quad +4$   
 $2x = 16$   
 $x = 8$

Find  $y$ , know  $\angle Q \cong \angle F$ ;  $x = 8$

$m\angle Q = m\angle F$   
 $6y + x = 68$   
 $6y + 8 = 68$   
 $6y = 60$   
 $y = 10$

p228: 4-12, 16-21

### 3<sup>rd</sup> Angle Congruence Theorem

If two angles of 2 triangles are congruent, the  $\Delta$ 's are  $\cong$  / similar



### Properties of Congruence

Reflexive  $\Delta ABC \cong \Delta ABC$

Symmetric  $\Delta ABC \cong \Delta DEF$ , so  $\Delta DEF \cong \Delta ABC$

Transitive If  $\Delta ABC \cong \Delta DEF$  &  $\Delta DEF \cong \Delta XYZ$ , then  $\Delta ABC \cong \Delta XYZ$