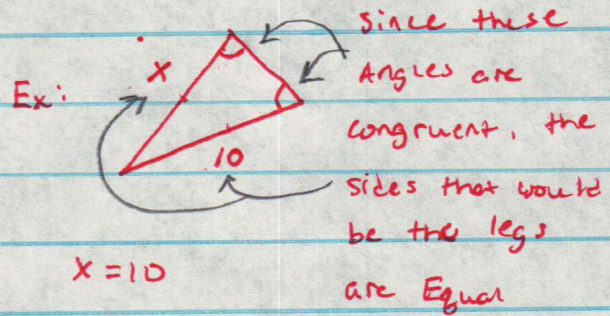
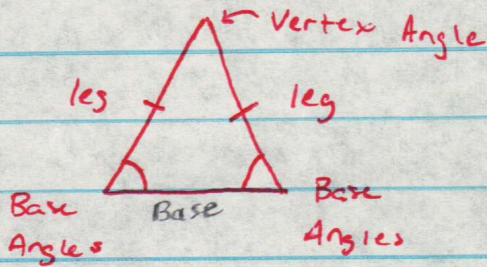
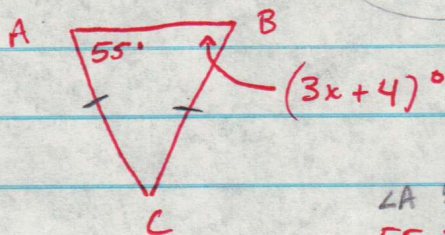


5.4 Isosceles & Equilateral Triangles

Isosceles Triangles: 2 congruent Sides



Ex: Given $\triangle ABC$, $\overline{BC} \cong \overline{AC}$. Find $\angle B$.



This tells us it is Isosceles.

$$\therefore \angle A \cong \angle B$$

$$\angle A \cong \angle B$$

$$55 = 3x + 4$$

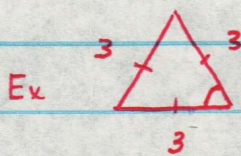
$$-4 \quad -4$$

$$\frac{51}{3} = \frac{3x}{3}$$

$$x = 17$$

Equilateral Triangles: All sides are congruent.

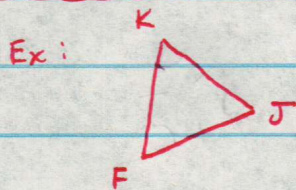
- IF it is Equilateral, It is Equiangular.



Find This Angle...

$$180 \div 3 = 60^\circ$$

All Interior Angles Sum to 180°



Given $\triangle KJF$, $\angle K \cong \angle J \cong \angle F$. ← Equilateral

$$\overline{KJ} = 17 \quad \overline{KF} = 2x - 3$$

Solve for x .

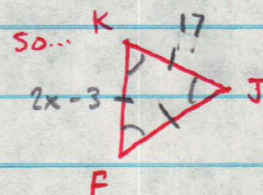
$$2x - 3 = 17$$

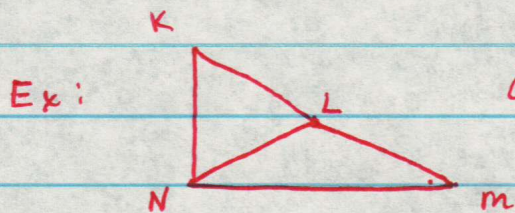
$$+3 \quad +3$$

$$2x = 20$$

$$\frac{2x}{2} = \frac{20}{2}$$

$$x = 10$$





Given:

$$\angle K \cong \angle KLN \cong \angle KNL$$

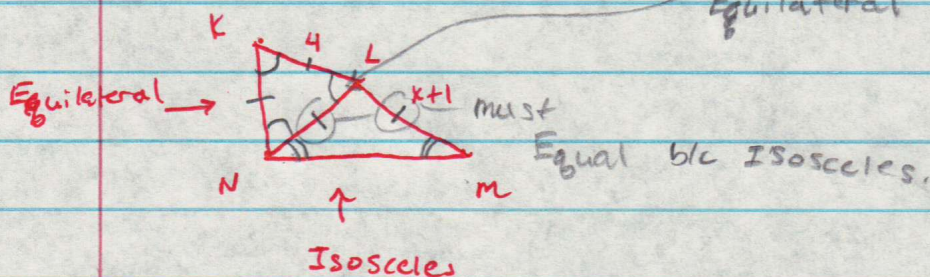
$$\angle LNM \cong \angle LMN$$

$$\overline{KL} = 4 \quad \overline{LM} = x+1$$

Find x & \overline{KN}

So Label what you know...

Equiangular
and
Equilateral



So $\overline{KN} = 4$

So $\overline{NL} = 4$ & $\overline{NL} = \overline{LM}$. So $x+1 = 4$
-1 -1

$x = 3$

HW: Pg 232 #s 7-16