


1/22 Applying Triangle Sum Properties 207

ch 4.1

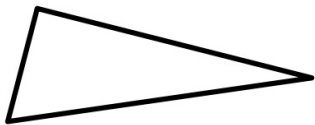
A triangle is a 3 sided polygon.

A triangle with the vertices A,B,C

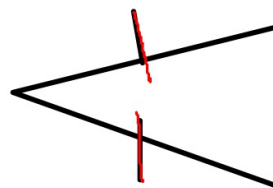
can be named  ABC

Classifying triangles by side

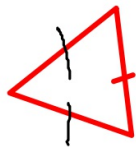
scalene: no congruent sides



isosceles: 2 congruent sides

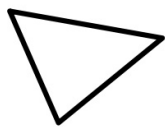


Equilateral: all sides congruent



Classify by angle

Acute



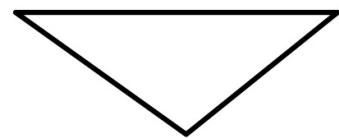
3 acute angles

Right



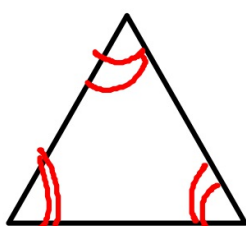
1 right angle
 90°

Obtuse



1 obtuse angle

Equilateral

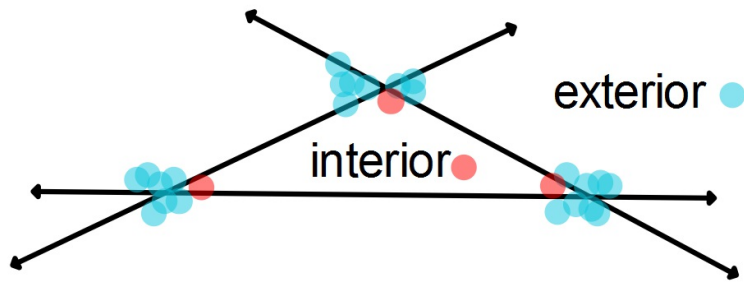


all 3 angles equal

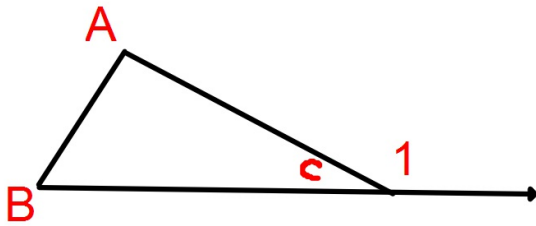
acute angle Less than 90°
Right angle = 90°

Obtuse angle Greater than 90°

Angles



The 3 interior angles of a triangle always add up to 180°



$$m\angle A + m\angle B = m\angle 1$$

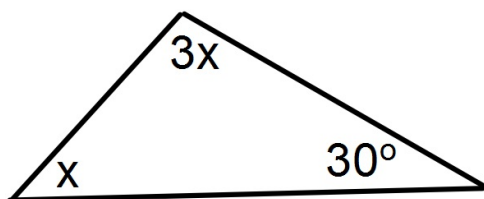
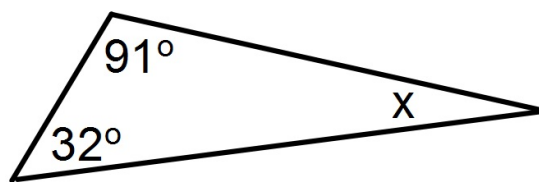
also

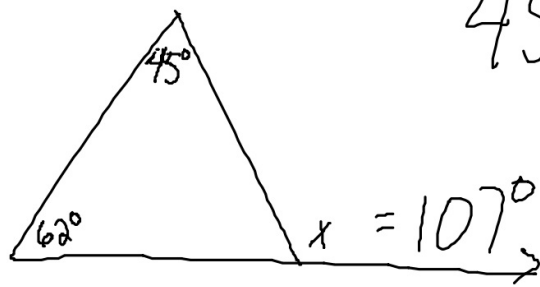
$$180 - m\angle C = m\angle 1$$

Ex

find x

$180^\circ -$





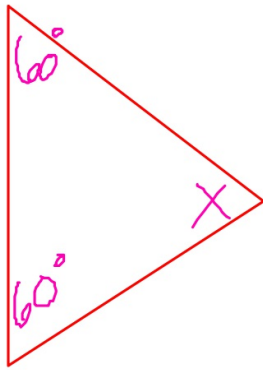
$$45 + 62 = 107^\circ$$

1-16 Pg 211.

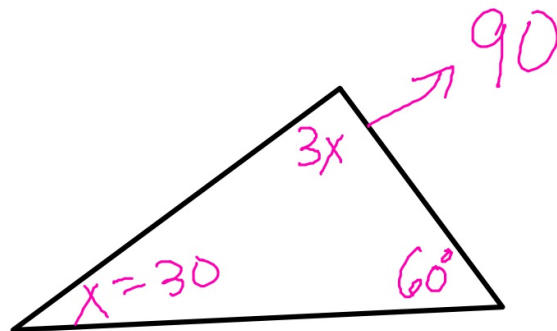
Home work:
pg 211 1-16

1. $30^\circ, 60^\circ, 90^\circ$ — Right \triangle
2. Sides 2m, 2m, 2m — Equilateral
3. $60^\circ, 60^\circ, 60^\circ$ — equiangular
4. 6m, 3m, 6m — Isosceles
5. 4ft, 3ft, 5ft — Scalene
6. $20^\circ, 125^\circ, 35^\circ$ — Obtuse

Home work review



$$\begin{array}{r} 180 \\ - 60 \\ \hline 120 \\ - 60 \\ \hline 60 = X \end{array}$$

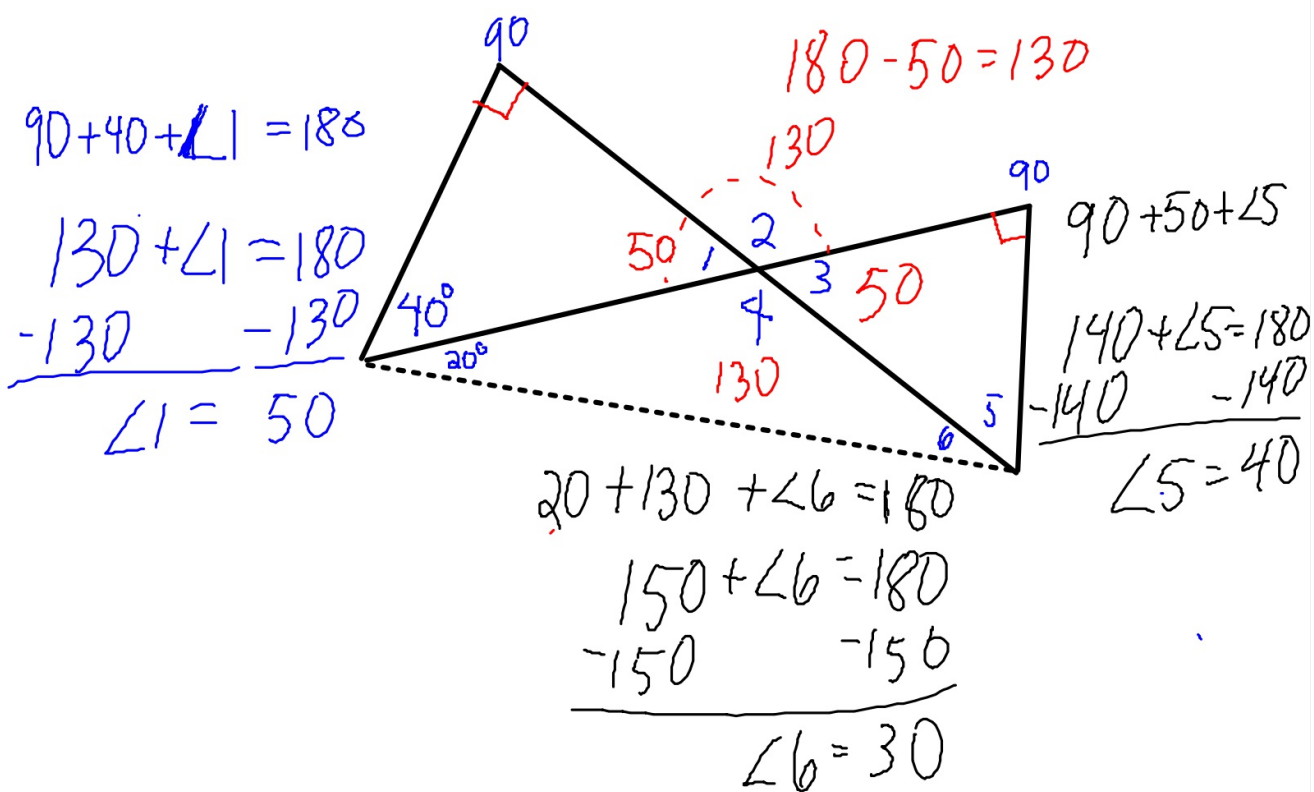
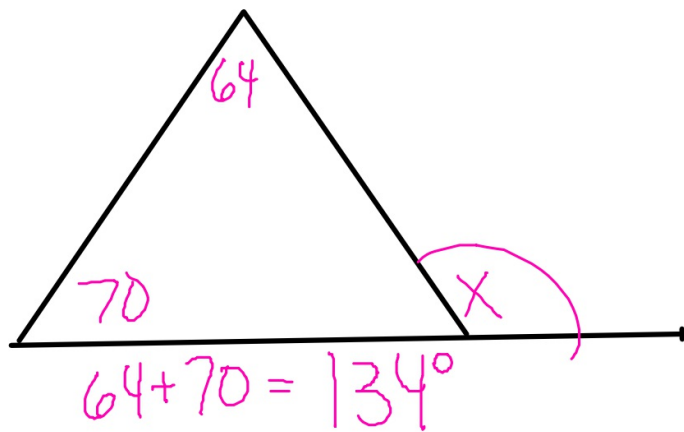


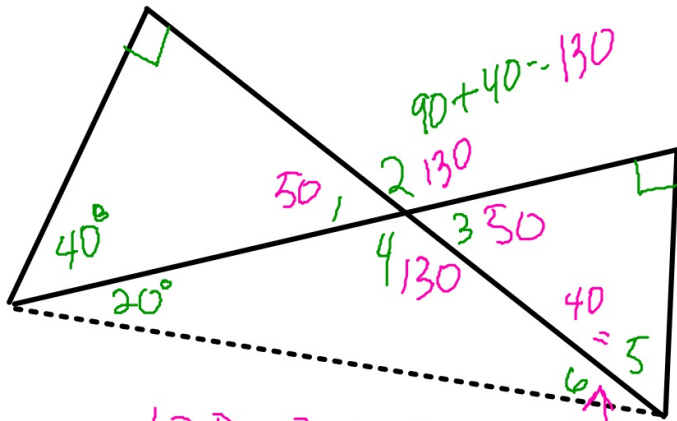
$$3x + X + 60^\circ = 180$$

$$4x + 60^\circ = 180$$

$$\begin{array}{r} - 60 \quad - 60 \\ \hline 4x = 120 \end{array}$$

$$\begin{array}{r} \underline{4} \quad \underline{4} \\ 4 \quad 4 \end{array}$$





$$180 - 130 = 50$$

$$50 + 90 = 140$$

$$180 - 140 = 40$$

$$130 + 20 = 150$$

$$180 - 150 = 30$$

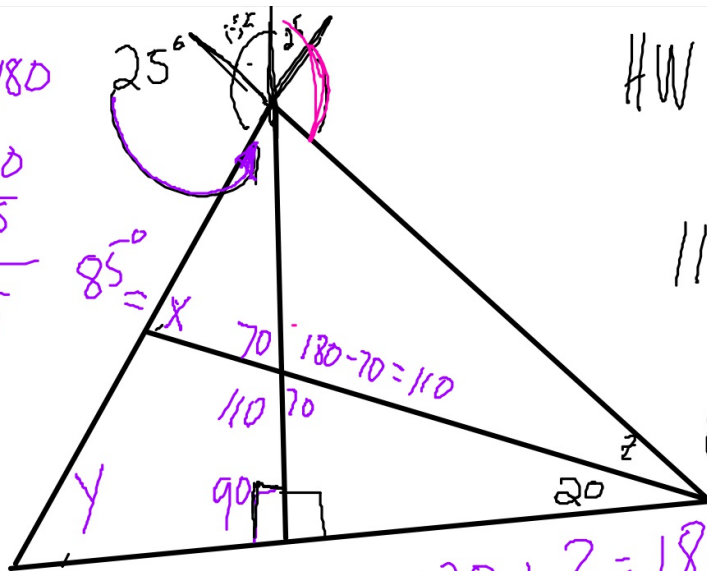
HW.

212

32-33

Quiz Question

$$\begin{aligned} X + 25 + 70 &= 180 \\ X + 95 &= 180 \\ -95 &-95 \\ \hline X &= 85 \end{aligned}$$



HW Pg 212
32-33

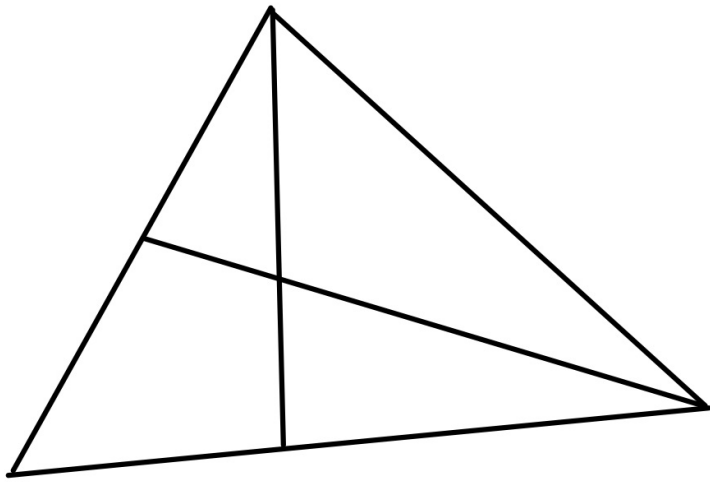
$$110 + 25 =$$

$$110 + z = 25 + 9$$

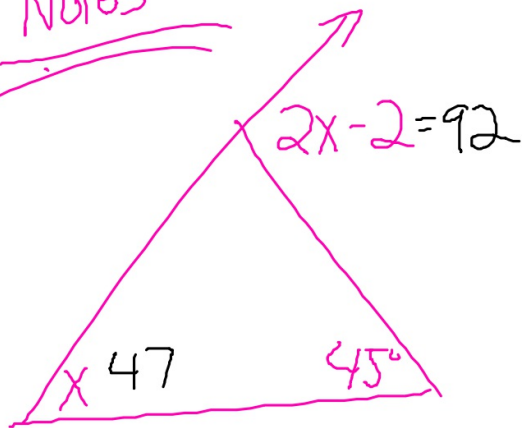
$$85 + z = 9$$

$$\begin{aligned} 90 + 25 &= 115 \\ 115 + y &= 180 \\ -115 &-115 \\ \hline y &= 65 \end{aligned}$$

$$\begin{aligned} 90 + 20 + ? &= 180 \\ 110 + ? &= 180 \\ -110 &-110 \\ \hline ? &= 70 \end{aligned}$$



Notes

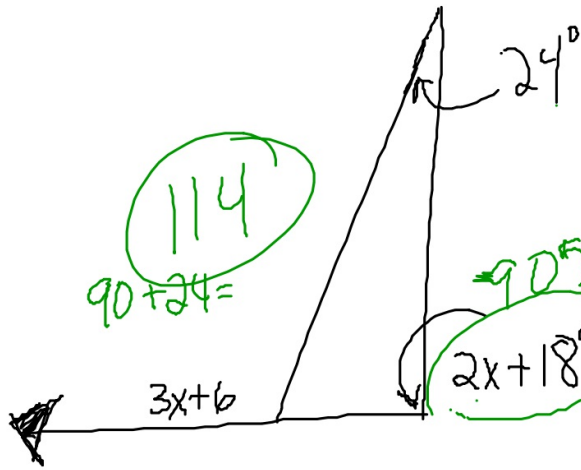


Quiz Question

$$\begin{array}{r}
 x+45 = 2x-2 \\
 -x \qquad -x \\
 \hline
 45 = x-2 \\
 +2 \qquad +2 \\
 \hline
 \end{array}$$

$$2x-2 = 47+45 \quad 47 = x \\
 \qquad \qquad \qquad \vee \\
 \qquad \qquad \qquad 92$$

Quiz
Question



$$90+24=114$$
$$2x+18^\circ = 2 \cdot 36 + 18 = 72 + 18$$

$$90 = 2x + 18$$

$$24 + 2x + 18 = 3x + 6$$

$$\begin{array}{r} 24 \\ + 18 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 42 + 2x = 3x + 6 \\ \hline -2x \quad -2x \\ \hline 42 = x + 6 \\ \hline -6 \quad -6 \\ \hline 36 = x \end{array}$$