Review: Lines and Angles

Notes: Identify each type of triangle by its angles and by its sides

$3x=180$

$x=60$

By sides: equilateral
By angles: acute

By sides: scalene
By angles: right

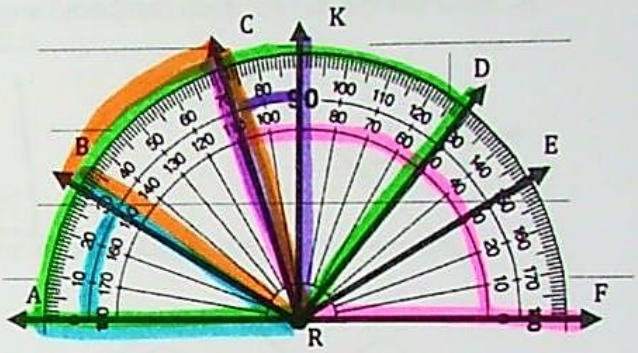
By sides: isosceles
By angles: obtuse

Part 1: Find the measure of the angles below.

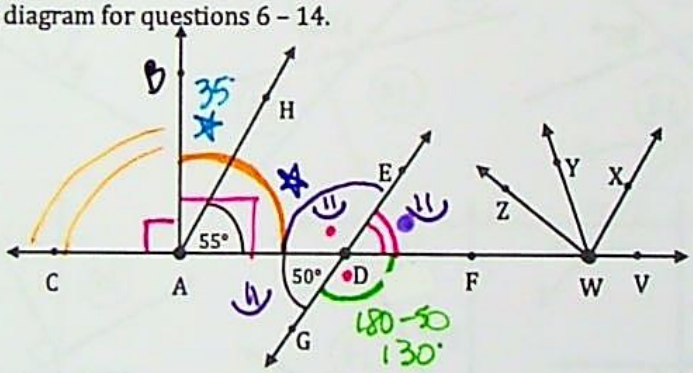
1) What is the measure of ∠DRA? 129°
2) What is the measure of ∠CRF? 109°
3) What is the measure of ∠ARB? 30°
4) What is the measure of ∠CRB? 40°
5) What is the measure of ∠KRC? 20°

70 - 30

90 - 70



Use the following diagram for questions 6 – 14.



180 - 50

130°

6) Which angle is supplementary angle to ∠EDF? ∠EDA or ∠FDG

180 (straight ∠)

7) What is the measure of ∠GDF? 130°

8) Which two angles are right angles? ∠BAC and ∠BAD

9) What is the measure of ∠EDF? 50°

10) Which angle is adjacent to ∠BAD? ∠BAC (next to)

11) Which angle is a complementary angle to ∠HAD? ∠BAH

90°

12) What is the measure of ∠HAB? 35°

90 − 55 = 35

13) What is the measure of ∠CAD? 180° (Straight ∠)

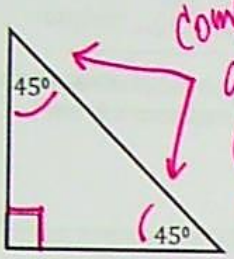
14) Which angles are adjacent to ∠EDA? ∠EDF and ∠ADG

Notes

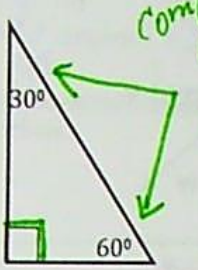
The Interior Angles of a Triangle

FACT: The three interior angles of a triangle always add up to 180°.

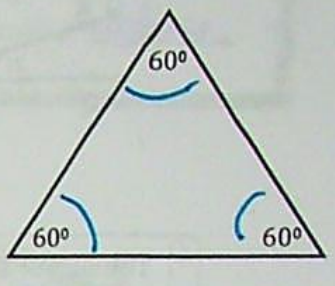
Example 1:



Complementary angles (acute) 45+45=90



Complementary angles (acute) 30+60=90

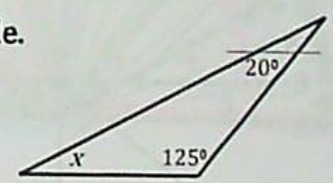


$45° + 45° + \underline{90} = 180°$ (90 + 90)

$30° + 60° + \underline{90} = 180°$ (90 + 90)

$60° + 60° + 60° = 3(\underline{60}) = \underline{180°}$

Example 2: **Find the missing angle in the triangle.**



Solution:

Step 1: Write equation. $20° + 125° + x = 180$

Step 2: Combine like terms. $145 + x = 180°$

Step 3: Isolate x. $145° + x = 180°$

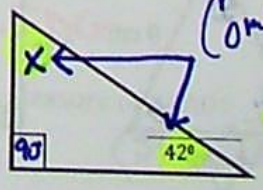
$-145 \quad -145$

Step 4: State the solution. $x = 35$

Step 5: Use solution to answer the original question.

The measure of the missing angle is 35°

Example 3: **Find the missing angle in the triangle.**



Complements 90 − 42 = 48°

$90 + 42 + x = 180$

$132 + x = 180$

$-132 \quad -132$

$x = 48°$

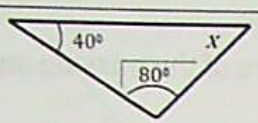
The measure of the missing angle is: 48°

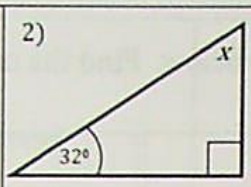
~~ Unit 8, Page 15 ~~ (Assignment)

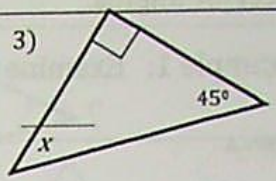
HELP BELOW!

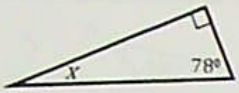
Independent Practice

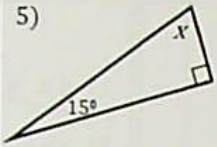
Find the missing angle in the triangles. For each problem, show an equation and solve.

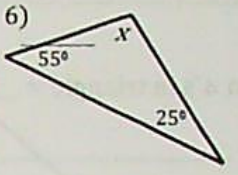
1) 

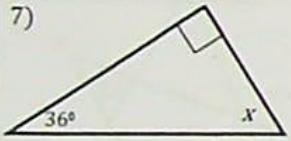
2) 

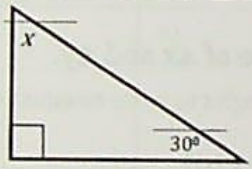
3) 

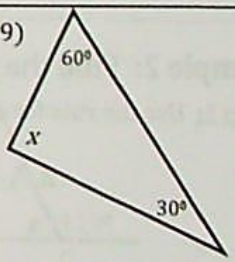
4) 

5) 

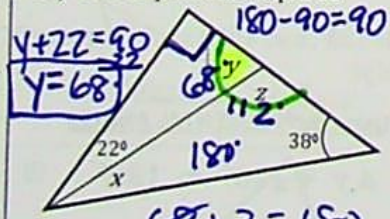
6) 

7) 

8) 

9) 

10) Two equations required

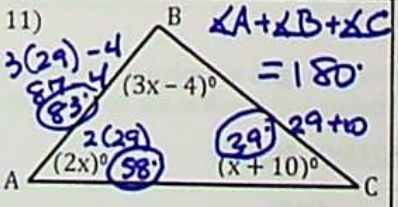


$68 + z = 180$
-68
$z = 112$

$112 + 38 + x = 180$
$150 + x = 180$
-150
$x = 30$

y: 68
z: 112
x: 30°

11)

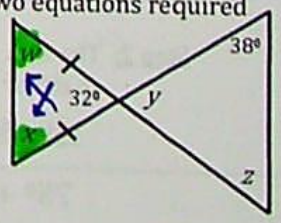


$\angle A + \angle B + \angle C = 180°$

$2x + 3x - 4 + x + 10 = 180$
$6x + 6 = 180$
$-6 \quad -6$
$\frac{6x}{6} = \frac{174}{6}$
$x = 29$

A: 58°
B: 83°
C: 39°
180° ✓

12) Two equations required



$\angle W = \angle X$
$180 - 32$
$\frac{148}{2}$
74

w: 74°
x: 74°
y: _____
z: _____