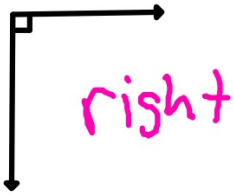
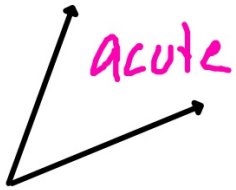
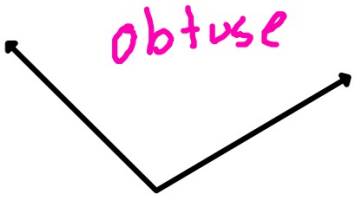
Bell Ringer #21:

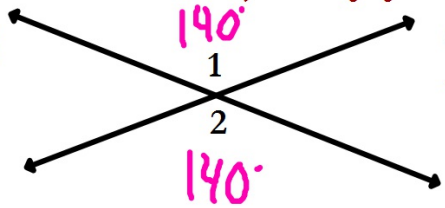
Classify each angle as acute, right, or obtuse.

1) 

2) 

3) 

Find the measure of each numbered angle and name the theorems that justify your work.

4) 

$m\angle 1 = 12x + 20$
$m\angle 2 = 16x - 20$

$12x+20=16x-20$
$-16x \quad -16x$
$-4x+20=-20$
$\quad -20 \quad -20$
$-4x=-40$

$x=\frac{-40}{-4}=10$

Unit Test 3 Results:

LT11: Conditional Statements

Class Average = 8.8

LT12: Algebraic Proofs

Class Average = 9.4

LT13: Segment & Angle Proofs

Class Average = 6.9

Unit Test 3 Results:

LT11: Conditional Statements

Class Average = 8.4

LT12: Algebraic Proofs

Class Average = 9.1

LT13: Segment & Angle Proofs

Class Average = 5.8

Logic & Proofs Test:
LT11 Conditional Statements

Spot the Errors

2) If an angle is 200 degrees, then it is obtuse.

F

T

TRUE or FALSE

Counter Example (if needed):

3) If two angles are supplementary, then one of the angles is acute.

T

TRUE or FALSE

Counter Example (if needed):

Logic & Proofs Test:
LT12 Algebraic Proofs

Spot the Errors

Given: $3(k - 2) = 2k + 1$

Prove: $k = 7$

Statements	Reasons

Logic & Proofs Test:
LT12 Algebraic Proofs

Spot the Errors

Given: $3(k-2) = 2k+1$

Prove: $k = 7$

Statements	Reasons
$3(k-2) = 2k+1$	Given
$3k-6 = 2k+1$	Distribution property
$-2k \quad -2k$	Subtraction property
$k-6 = 1$	Addition property
$k-6+6 = 1+6$	Substitution property
$k = 7$	

Logic & Proofs Test:

LT12 Algebraic Proofs

Given: $3(k-2) = 2k+1$

Prove: $k = 7$

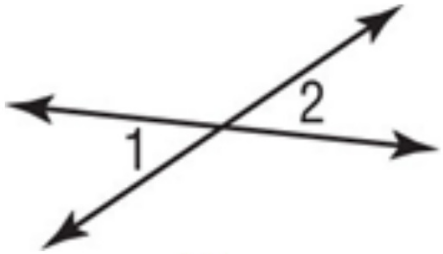
Statements	Reasons
$3(k-2) = 2k+1$	Given
$3(k) - 3(2) = 2k+1$	Distributive Property
$3k - 6 = 2k + 1$	Substitution Property
$3k - 6 - 2k = 2k + 1 - 2k$	Subtraction Property
$k - 6 = 1$	Substitution property
$k - 6 + 6 = 1 + 6$	Addition property
$k = 7$	Substitution property

Logic & Proofs Test:
LT13 Segment & Angle Proofs

Spot the Errors

Find the measure of each numbered angle and name the theorems that justify your work.

1) $m\angle 1 = 38$ 90-38=52°



$m\angle 2 =$ 38

Justification:

Reflexive

Vertical angles thm.

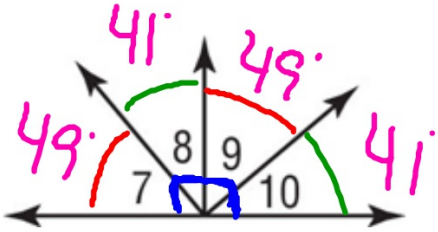
Logic & Proofs Test:
LT13 Segment & Angle Proofs

Spot the Errors

Find the measure of each numbered angle and name the theorems that justify your work.

2) $\angle 9$ and $\angle 10$ are complementary.

$\angle 7 \cong \angle 9$, $m\angle 8 = 41$



$m\angle 7 =$ 49°

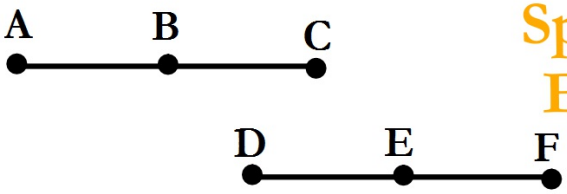
$m\angle 9 =$ 49

$m\angle 10 =$ 41°

Justification: Complement thm.

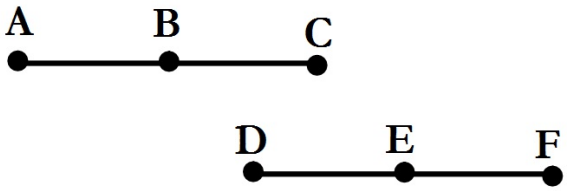
Spot the Errors

Given $\overline{AB} \cong \overline{DE}$
B is the midpoint of $\overline{AC}$
E is the midpoint of $\overline{DF}$
Prove: $\overline{BC} \cong \overline{EF}$



Statements	Reasons
a. $\overline{AB} \cong \overline{DE}$; B is the midpoint of $\overline{AC}$; E is the midpoint of $\overline{DF}$	a. Given
b. AB = DE	b. Def. of Segments (Def of ≅ segments)
c. ~~AB = BC~~ AC = EF DE = EF	c. Def. of midpoint
d. BC = DE	d. Substitution property
e. BC = EF	e. ~~Transitive Property~~
f. $\overline{BC} \cong \overline{EF}$	f. Substitution Property

Given $\overline{AB} \cong \overline{DE}$
B is the midpoint of $\overline{AC}$
E is the midpoint of $\overline{DF}$
Prove: $\overline{BC} \cong \overline{EF}$



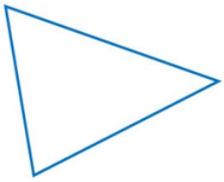
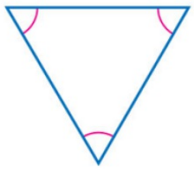
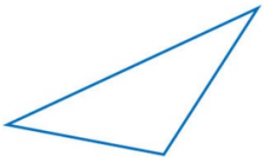
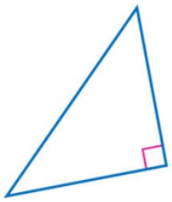
Statements	Reasons
a. $\overline{AB} \cong \overline{DE}$; B is the midpoint of $\overline{AC}$; E is the midpoint of $\overline{DF}$	a. Given
b. AB = DE	b. Def. of congruent segments
c. AB = BC; DE = EF	c. Def. of midpoint
d. BC = DE	d. Substitution property
e. BC = EF	e. Substitution property
f. $\overline{BC} \cong \overline{EF}$	f. Def. of congruent segments

Unit 4: Congruent Triangles

LT14: 4-1 Classifying Triangles
LT15: 4-2 Triangle Angle-Sum
LT16: 4-6 Isosceles & Equilateral
LT17: 4-3 Congruent Triangles
LT18: 4-4, 4-5 Triangle Congruence
LT19: 4-4, 4-5 Triangle Proofs

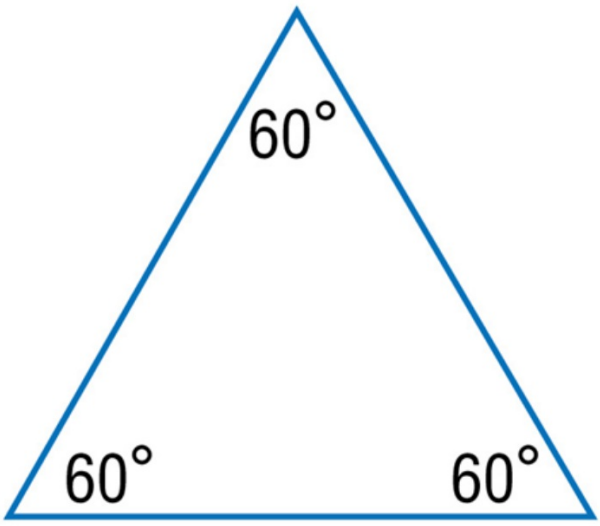
Classify Triangles by Angles

KeyConcept Classifications of Triangles by Angles

acute triangle	equiangular triangle	obtuse triangle	right triangle
			
3 acute angles	3 congruent acute angles	1 obtuse angle	1 right angle

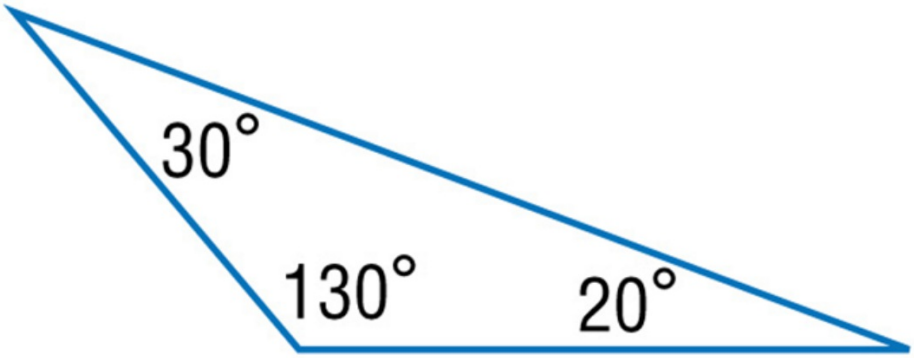
Classify Triangles by Angles

Classify the triangle as acute, equiangular, obtuse, or right.



Classify Triangles by Angles

Classify the triangle as acute, equiangular, obtuse, or right.



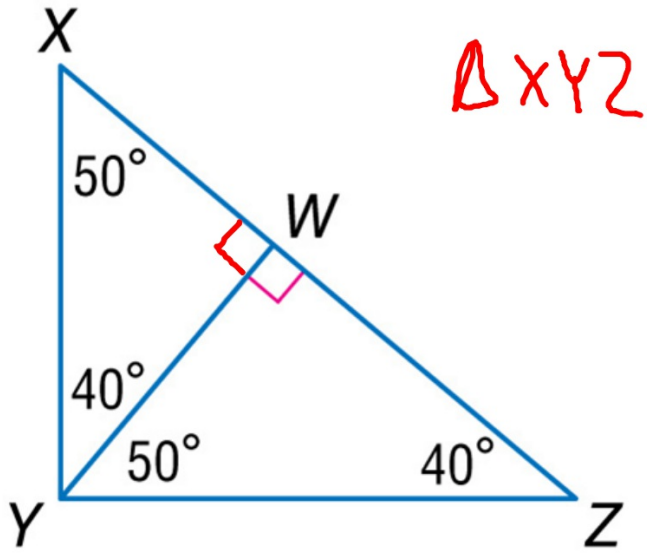
Classify Triangles by Angles

Classify each triangle in the figure as acute, equiangular, obtuse, or right.

$\triangle XWY$ = right

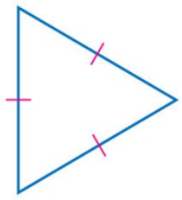
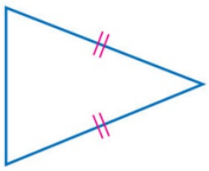
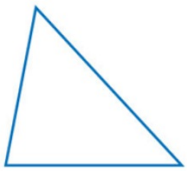
$\triangle WYZ$ = right

$\triangle XYZ$ = right



Classify Triangles by Sides

KeyConcept Classifications of Triangles by Sides

equilateral triangle	isosceles triangle	scalene triangle
		
3 congruent sides	at least 2 congruent sides	no congruent sides

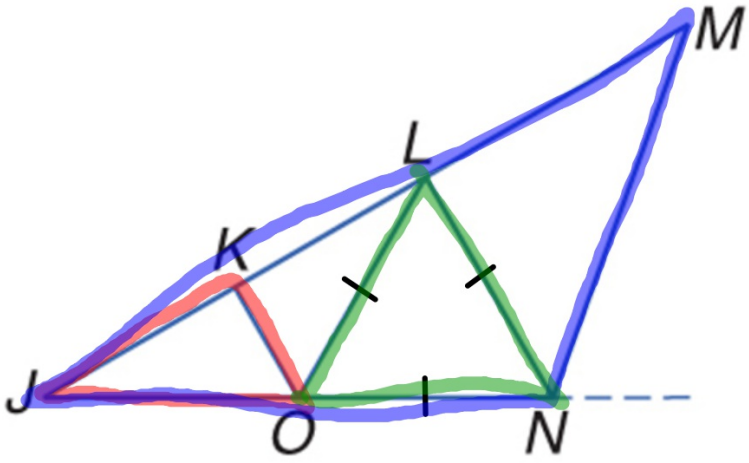
Classify Triangles by Sides

Classify the following triangles as equilaterial, isosceles, or scalene.

ΔJKO = Scalene

ΔJMN = Scalene

ΔLNO = equilateral



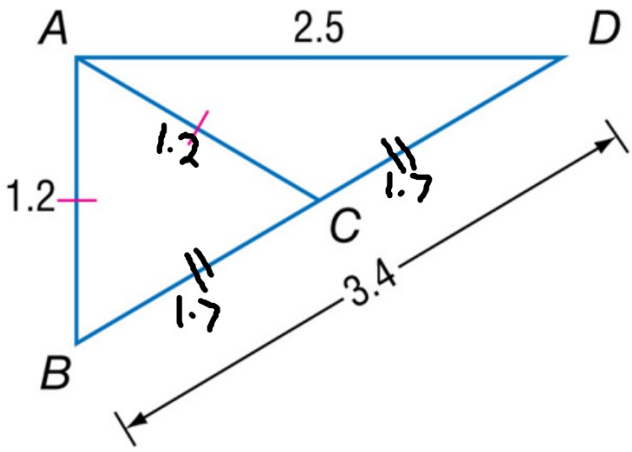
Classify Triangles by Sides

Point C is the midpoint of $\overline{BD}$
Classify each triangle in the figure as equilaterial, isosceles, or scalene.

$\triangle ACB$ = isosceles

$\triangle ACD$ = Scalene

$\triangle ABD$ = Scalene



Algebra

Find the measures of the sides of the isosceles triangle.

$12 - d = 4d - 13$

$-4d \quad -4d$

$12 - 5d = -13$

$-12 \quad -12$

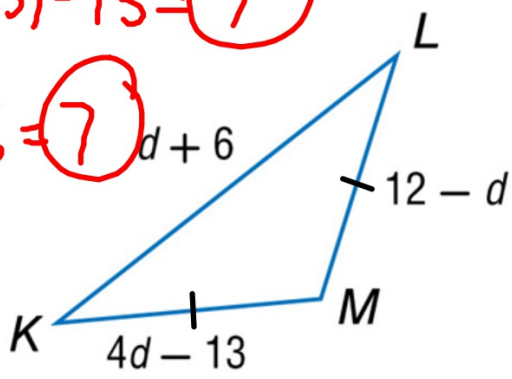
$-5d = -25$

$d = \frac{-25}{-5} = 5$

$KL = 5 + 6 = 11$

$KM = 4(5) - 13 = 7$

$LM = 12 - 5 = 7$



Coordinate Geometry

Find the measures of the sides of triangle ABC and classify it by its sides.

$x_1\ y_1$ $x_2\ y_2$

A(-2, 3), B(2, 2), C(1, -2)

$AB = \sqrt{(2+2)^2+(2-3)^2}$

$\sqrt{4^2+(-1)^2}$

$\sqrt{16+1}$

$\sqrt{17}$

4.12

$BC = \sqrt{(1-2)^2+(-2-2)^2}$

$\sqrt{(-1)^2+(-4)^2}$

$\sqrt{1+16}$

$\sqrt{17}$

4.12

$AC = \sqrt{(1+2)^2+(-2-3)^2}$

$\sqrt{3^2+(-5)^2}$

$\sqrt{9+25}$

$\sqrt{34}$

5.83

Isosceles

Homework:

4-1
Skills Practice #1-12

4-1
Practice #1-7, 10