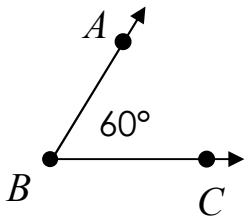
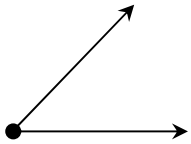
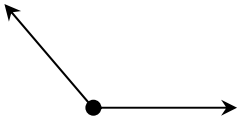
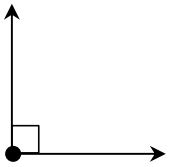
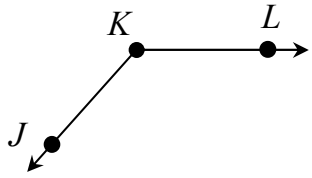
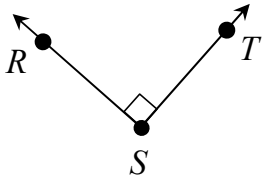
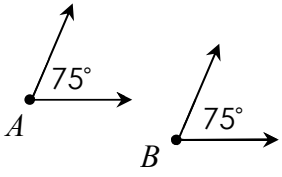
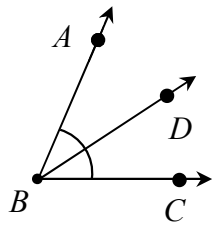
Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes
Angles 	• An angle is formed by two _____ with a common endpoint. • This common endpoint is called the _____ • The rays are called the _____. • Name an angle using _____ letters. The middle letter must always represent the vertex! • Use a single letter if there is only one angle located at the vertex. • When referring to the measure of an angle, use a lowercase m. **Example:** $m\angle ABC = 60^\circ$
Types of Angles	   
Example 1 	**a)** Name the vertex of the angle. _____ **b)** Name the sides of the angle. _____ **c)** Give three ways to name the angle. _____, _____, _____ **d)** Classify the angle. _____
Example 2 	**a)** Name the vertex of the angle. _____ **b)** Name the sides of the angle. _____ **c)** Give three ways to name the angle. _____, _____, _____ **d)** Classify the angle. _____
Congruent Angles	If _____, then the angles are congruent. This is written as _____. 

Angle Bisector

A _____ that divides an angle into _____ _____ _____.

In the diagram to the right, _____ is an angle bisector, therefore, _____.

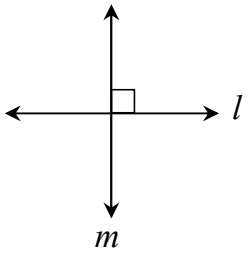


Perpendicular Lines

Two lines that _____ at a _____ _____.

The symbol for perpendicular is _____.

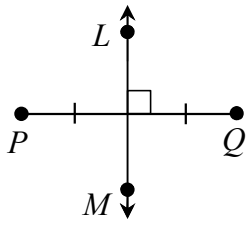
In the diagram to the right, _____.



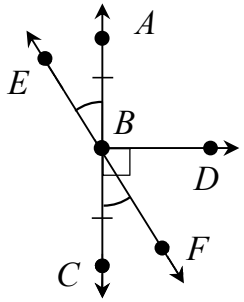
Perpendicular Bisector

A line, segment, or ray _____ to a segment at its _____.

In the diagram to the right, _____ is the perpendicular bisector to _____.



Example 3



a) Write another name for $\angle CBF$. _____

b) Name the sides of $\angle EBD$. _____

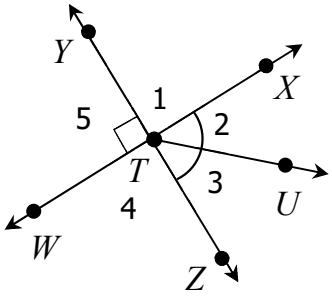
c) Classify $\angle ABC$. _____

d) Give an example of an obtuse angle. _____

e) Name two congruent angles. _____

f) Name a perpendicular bisector. _____

Example 4



a) Name the vertex of $\angle 2$. _____

b) Name the sides of $\angle 4$. _____

c) Write another name for $\angle 3$. _____

d) Write another name for $\angle 1$. _____

e) Classify $\angle YTW$. _____

f) Classify $\angle YTU$. _____

g) Classify $\angle XTU$. _____

h) Classify $\angle WTX$. _____

i) Name two perpendicular lines. _____

j) Name an angle bisector. _____

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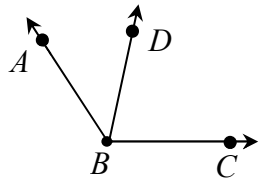
Main Ideas/Questions	Notes/Examples

ANGLE ADDITION Postulate

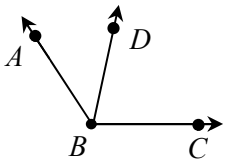
If D is in the interior of $\angle ABC$, then

_____



Examples

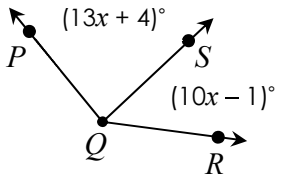
Use the diagram below to answer questions 1 and 2.



1. If $m\angle ABD = 48°$ and $m\angle DBC = 78°$, find $m\angle ABC$.

2. If $m\angle DBC = 74°$ and $m\angle ABC = 119°$, find $m\angle ABD$.

3. If $m\angle PQR = 141°$, find each measure.

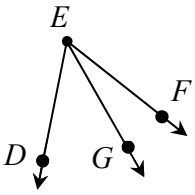


x = _____

$m\angle PQS$ = _____

$m\angle SQR$ = _____

4. If $m\angle DEF = (7x + 4)°$, $m\angle DEG = (5x + 1)°$, and $m\angle GEF = 23°$, find each measure.

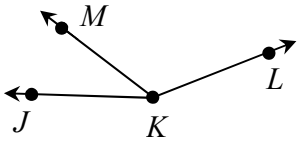


x = _____

$m\angle DEG$ = _____

$m\angle DEF$ = _____

5. If $m\angle JKM = 43°$, $m\angle MKL = (8x – 20)°$, and $m\angle JKL = (10x – 11)°$, find each measure.

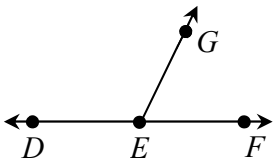


x = _____

$m\angle MKL$ = _____

$m\angle JKL$ = _____

6. If $\angle DEF$ is a straight angle, $m\angle DEG = (23x - 3)^\circ$, and $m\angle GEF = (12x + 8)^\circ$, find each measure.



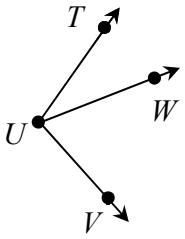
$x =$ _____

$m\angle DEG =$ _____

$m\angle GEF =$ _____

$m\angle DEF =$ _____

7. If $m\angle TUW = (5x + 3)^\circ$, $m\angle WUV = (10x - 5)^\circ$, and $m\angle TUV = (17x - 16)^\circ$, find each measure.



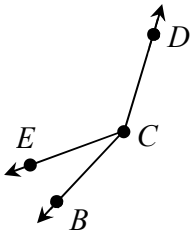
$x =$ _____

$m\angle TUW =$ _____

$m\angle WUV =$ _____

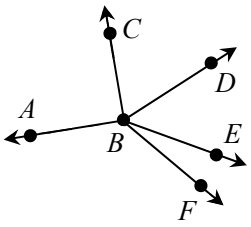
$m\angle TUV =$ _____

8. If $m\angle ECD$ is six less than five times $m\angle BCE$, and $m\angle BCD = 162^\circ$, find each measure.



$m\angle BCE =$ _____

$m\angle ECD =$ _____



Use the diagram to the left to answer questions 9 and 10.

9. If $m\angle ABF = (6x + 26)^\circ$, $m\angle EBF = (2x - 9)^\circ$, and $m\angle ABE = (11x - 31)^\circ$, find $m\angle ABF$.

10. If $\overrightarrow{BD}$ bisects $\angle CBE$, $\overrightarrow{BC} \perp \overrightarrow{BA}$, $m\angle CBD = (3x + 25)^\circ$, and $m\angle DBE = (7x - 19)^\circ$, find $m\angle ABD$.