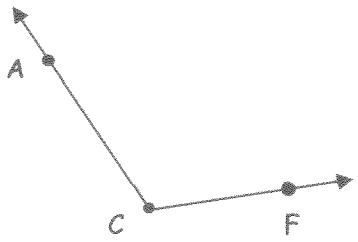
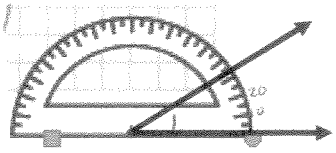
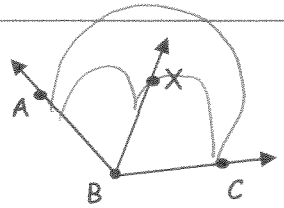
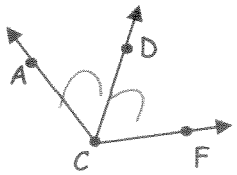
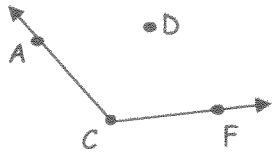
1-4 Angle Measure

Term:	Definition:	Example:	Notation:
Ray	A ray is a part of a line. It has one endpt. and extends ∞ in one direction.	R S	$\overrightarrow{RS}$
Opposite Rays	Two rays that share a common endpoint and are collinear.	M A N	$\overrightarrow{AM}$ & $\overrightarrow{AN}$
Angle	Formed by 2 non-collinear rays that share a common endpoint.		∠FCA ∠ACF ∠C
Sides	The rays of an angle are called sides of the angle.		$\overrightarrow{CA}$ $\overrightarrow{CF}$
Vertex	The vertex is the common endpoint of the two sides.		C
Degree	The unit of measure of an angle. The degree results from dividing the distance around a circle into 360 parts.	1 degree = 1/360 of a turn around a circle!	m∠ACF = 120°
Measuring an angle	To measure an angle, you use a protractor.		m∠1 = 32°
Congruent Angles	Angles that have the same measure.		
Angle Addition Postulate (Pg 149)	If X is in the interior of angle ABC, then m∠ABX + m∠XBC = m∠ABC		parachute
Angle Bisector	A ray that divides an angle into 2 ≅ angles.		∠ACD ≅ ∠DCF

An Angle divides a plane into 3 distinct parts which consist of:

- Points in the Interior of an angle: D
- Points in the Exterior of an angle: E
- Points on the angle itself: A, C, F

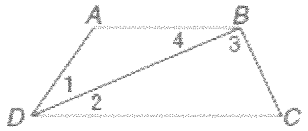


E

Type of Angle:	Definition:	Draw an example:
Acute angle	meas. less than 90°	
Right angle	meas. = 90°	
Obtuse angle	meas greater than 90°	
Straight angle	meas. = 180°	

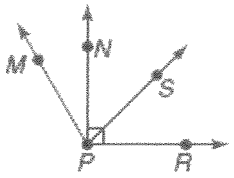
Exercises

Refer to the figure.



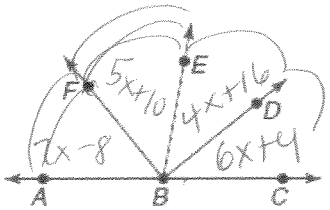
1. Name the vertex of $\angle 4$. B
2. Name the sides of $\angle BDC$. $\overrightarrow{DB}$ & $\overrightarrow{DC}$
3. Write another name for $\angle DBC$. $\angle 3$, $\angle CBD$

Measure each angle in the figure and classify it as *right*, *acute*, or *obtuse*.



4. $\angle MPR$ obtuse
5. $\angle RPN$ right
6. $\angle NPS$ acute

ALGEBRA In the figure, $\overrightarrow{BA}$ and $\overrightarrow{BC}$ are opposite rays, $\overrightarrow{BD}$ bisects $\angle EBC$, and $\overrightarrow{BF}$ bisects $\angle ABE$.



7. If $m\angle EBD = 4x + 16$ and $m\angle DBC = 6x + 4$, find $m\angle EBD$.

$4x+16 = 6x+4$
$12 = 2x$
$x = 6$
$m\angle EBD = 4(6)+16$
$24+16$
40°

8. If $m\angle ABF = 7x - 8$ and $m\angle EBF = 5x + 10$, find $m\angle EBF$.

$7x-8 = 5x+10$
$2x = 18$
$x = 9$
$m\angle EBF = 5(9)+10$
$45+10 = 55°$