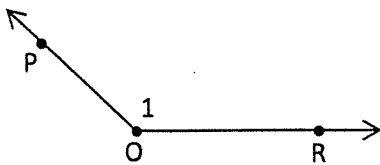


An angle is a figure formed by 2 rays with the same endpoint.

The symbol for angle : ∠

Use the diagram below to name:



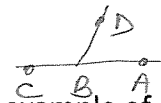
- ∠O
- ∠1
- ∠POR
- ∠ROp

- a. The sides of the angle. \vec{OP} \vec{OR}
- b. The vertex of the angle. O

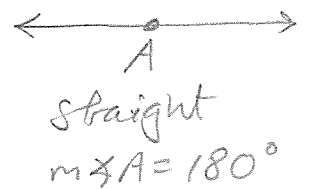
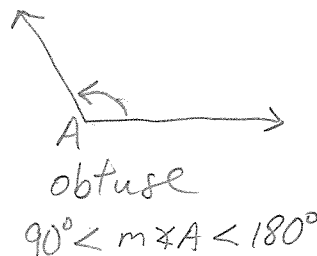
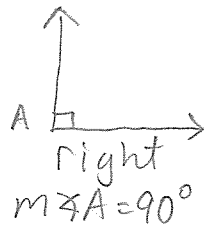
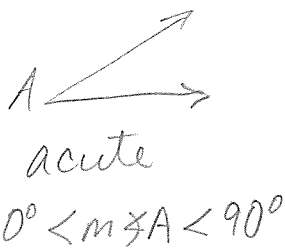
Give 4 different names for the angle above.

- ∠O, ∠1, ∠POR, ∠ROp

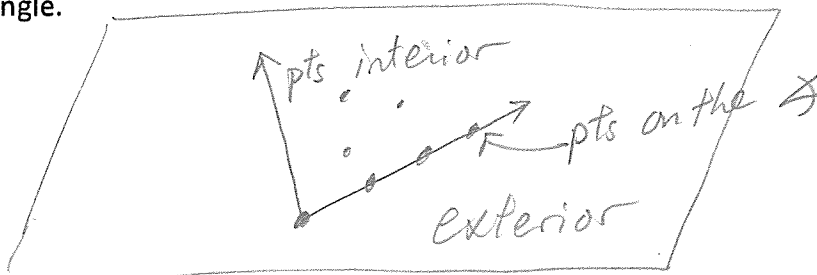
(If more than one ∠ w/ same vertex, cannot name with just 1 letter)
∠B - which?



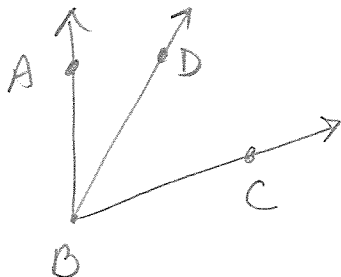
Angles are classified according to their measures. Draw and label an example of each.



Angles in a plane will separate the plane into three parts - the point in the interior, exterior and the points on the angle.



Angle Addition Postulate -



If D lies on the interior of ∠ABC, then
 $m∠ABD + m∠DBC = m∠ABC$

Congruent angles are angles that have equal measures.

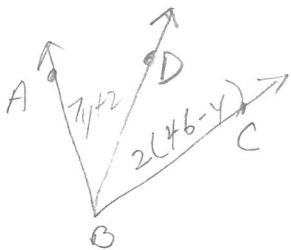
Adjacent angles are angles that share a common side

The bisector of an angle is a ray that divides the \angle into 2 \cong \angle s.

Try the following examples.

1. \overline{BD} is the bisector of $\angle ABC$. Draw a diagram and use the given information below to find $m\angle ABC$, $m\angle CBD$ and $m\angle DBA$.

$$m\angle ABD = 7y + 2 \text{ and } m\angle DBC = 2(46 - y)$$



$$\begin{aligned} 7y + 2 &= 2(46 - y) \\ 7y + 2 &= 92 - 2y \\ 9y &= 90 \\ y &= 10 \end{aligned}$$

$$m\angle CBD = 2(46 - 10) = 72^\circ$$

$$m\angle DBA = 7(10) + 2 = 72^\circ$$

Discuss how to check.

2. $m\angle PQS = 6x$, $m\angle PQR = 3x + 2$, $m\angle SQR = 22$. Find x and $m\angle PQR$.

$$3x + 2 + 22 = 6x$$

$$24 = 3x$$

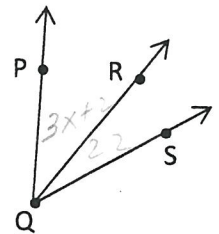
$$8 = x$$

$$m\angle PQR = 3(8) + 2$$

$$= 26^\circ$$

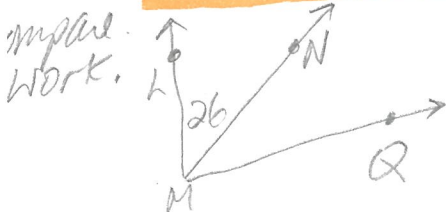
ck
 $m\angle PQS = 6(8) = 48$

$$26^\circ + 22^\circ = 48^\circ$$



have sps do.

imple. work.

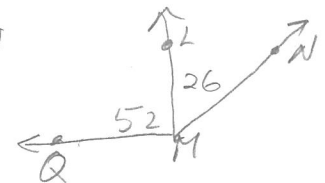


3. $m\angle LMN = 26$, $m\angle LMQ = 52$. Find $m\angle NMQ$.

$$m\angle NMQ = m\angle LMQ - m\angle LMN$$

$$= 52 - 26$$

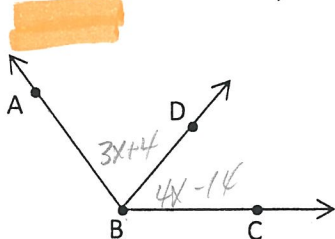
$$= 26^\circ$$



$$52 + 26 = m\angle NMQ$$

$$78^\circ = m\angle NMQ$$

4. $m\angle ABC = 130$, $\angle ABD = 3x + 4$ and $m\angle CBD = 4x - 14$. Is \overline{BD} the bisector of $\angle ABC$? Explain.



method 1

$$3x + 4 + 4x - 14 = 130$$

$$7x = 140$$

$$x = 20$$

$$m\angle ABD = 64$$

$$m\angle CBD = 4(20) - 14$$

$$= 66$$

NO,
since $64 + 66 \neq 130$

method 2

Assume \overline{BD} bise dor.

$$3x + 4 = 4x - 14$$

$$18 = x$$

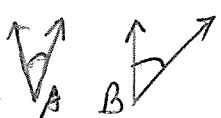
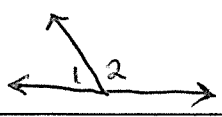
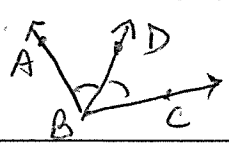
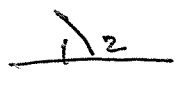
Do \angle s total 130?

$$m\angle ABD = 58 \quad m\angle CBD = 58$$

$$= 116 \neq 130 \quad \text{NO}$$

Angle Addition Postulate –

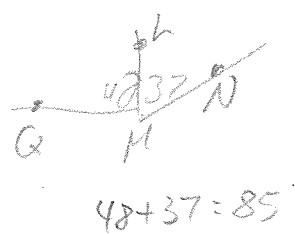
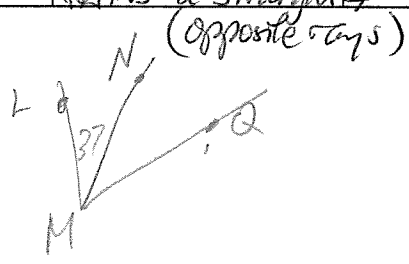
If point B lies on the interior of $\angle AOC$, then $m\angle AOB + m\angle BOC = m\angle AOC$.

TERM	DRAWING	DEFINITION	WORDS/SYMBOLS
Congruent Angles		\angle s that have the same measure	$\angle A \cong \angle B$
Adjacent Angles		2 \angle s that share a common side	$\angle 1$ adj. $\angle 2$
Bisector of an Angle (line, segment, ray or plane)		A ray on the interior of an \angle that \div the \angle into 2 \cong \angle s.	\overrightarrow{BD} bisects $\angle ABC$
Linear Pair		2 \angle s with a common side and form a straight \angle . (opposite rays)	$\angle 1$ & $\angle 2$ are lin. pair

Ex 1: $m\angle LMN = 37$, $m\angle LMQ = 48$

Find $m\angle NMQ$.

Two possibilities!
Does not state N on the interior.
Ex 2: S, A, N



$48 - 37 = 11$
 $m\angle NMQ = 11$

$48 + 37 = 85$
 $m\angle NBQ = 85$

a. $m\angle ABC + m\angle CBD = m\angle ABD$ S

b. $\angle ABC$ and $\angle CAB$ are the same angle. N

c. $\angle ABC$ and $\angle EBF$ are the same angle. S

d. The sum of two acute angles is an obtuse angle. S



Geometry (H)

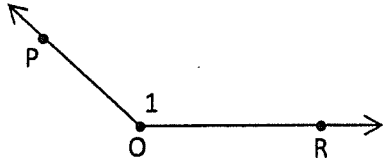
Name: _____

Section 1.2 Notes – Angles

An angle is _____

The symbol for angle : _____

Use the diagram below to name:



- a. The sides of the angle. _____
- b. The vertex of the angle. _____

Give 4 different names for the angle above.

Angles are classified according to their measures. Draw and label an example of each.

Angles in a plane will separate the plane into three parts – the point in the interior, exterior and the points on the angle.

Angle Addition Postulate -