Geometry

1.4 Measure and Classify Angles

# Angle

What is it like?

A

B

C

\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_

rays

* Two \_\_\_\_\_\_\_\_\_\_\_\_ with common \_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_)

cross

vertex

endpoint

* Formed when two lines \_\_\_\_\_\_\_\_\_\_\_

How is it named?

vertex

∠BAC

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_

sides

∠CAB

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_

∠A

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_

## protractor.jpgProtractor Postulate

measure angles

A protractor can be used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Angle Measure

What is it like?

coordinates

* Difference of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of each ray on a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|x2–x1|

protractor

* m∠A = \_\_\_\_\_\_\_\_\_\_\_

How is it named?

m∠A

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_

m∠BAC

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Classifying Angles

Acute

Less than 90°

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Right

\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_

Obtuse

right

90°

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Obtuse

More than 90°

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Straight

Straight

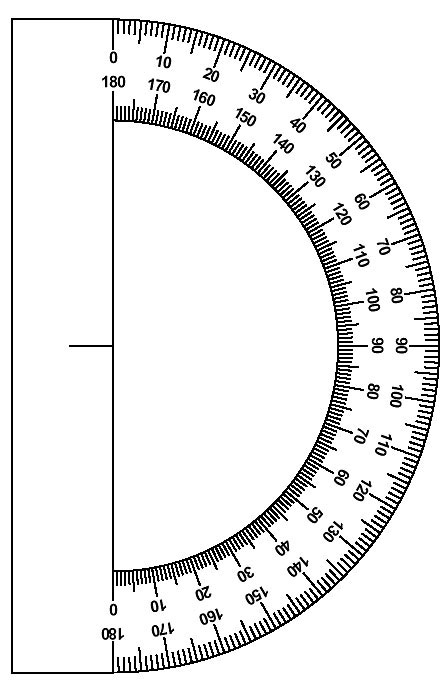
\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_

acute

180°

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



A

B

C

E

D

Find the measure of each angle and classify.

∠DEC

90 right

180 straight

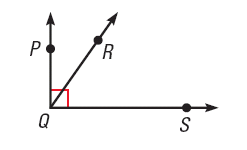
∠DEA

25 acute

∠CEB

115 obtuse

∠DEB

Name all the angles in the diagram.

∠PQR , ∠PQS, ∠RQS

Which angle is a right angle?

∠PQS is a right angle .

## Angle Addition Postulate

m∠RST = m∠RSP + m∠PST

If P is in the interior of ∠RST, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If m∠RST = 72°, find m∠RSP and m∠PST

T

P

S

R

2x – 9

3x + 6

2x-9 + 3x+6 = 72

5x-3=72

5x = 75

x = 15

m∠RSP = 2(15) – 9 = 21

m∠PST = 3(15) + 6 = 51

# Congruent Angles

* What is it like?

Angles with same measure

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

≅ means angles are exactly alike

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

= means measures are equal

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* What are examples?
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

∠ABC ≅ ∠DEF

Picture of congruent angles

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Identify all pairs of congruent angles in the diagram.

∠T ≅ ∠S

∠P ≅ ∠R

In the diagram, m∠PQR = 130, m∠QRS = 84, and m∠TSR = 121 . Find the other angle measures in the diagram.

m∠PTS = 121

m∠QPT = 84

**Angle Bisector** is a \_\_\_\_\_\_\_ that divides an angle into \_\_\_\_\_\_\_\_ angles that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

congruent

two

ray

bisects ∠PMQ, and m∠PMQ = 122°. Find m∠PMN.

Q

N

M

P

m∠PMN = 61

Assignment: 28 #4-26 even, 30, 34-42 even, 48, 50, 52, 56, 60, 64-72 even = 28 total