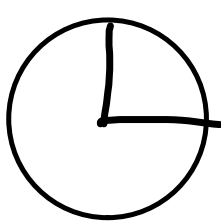
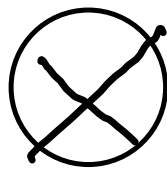


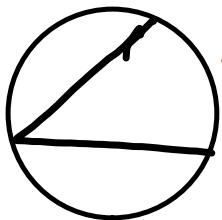
Circles
and
Arcs



Central
Arc = \angle

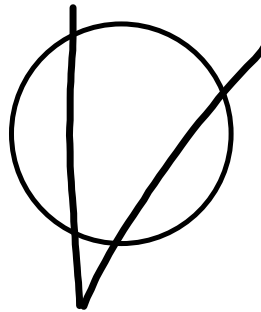


Arc + Area
2



Angle = $\frac{\text{Arc}}{2}$

2 Angle = Arc

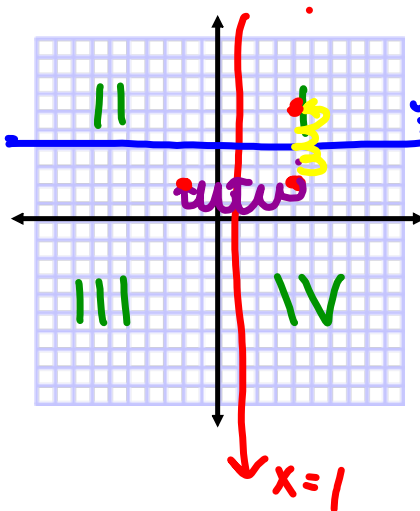


Big-Little
2

Area sector: $\frac{\theta}{360} \pi r^2$

Arc length: $\frac{\theta}{360} 2\pi r$

Transformations



A = pre image

A' = image

Scale Factor = Image / Pre Image

Mapping: describe the series of transformations to get from your pre image to your image

Isometry: transformation that preserves the same shape and size

Translation: $(x, y) \rightarrow (x \pm a, y \pm b)$

Reflection: x axis: $(x, -y)$ y axis: $(-x, y)$ $y=x$: (y, x)
 $y=-x$: $(-y, -x)$

Rotation: 90° ccw: $(-y, x)$ 90° cw: $(y, -x)$
 270° ccw 270° cw

Dilation:
 ENLARGE $SF > 1$ SHRINK $0 < SF < 1$

Congruence

SSS



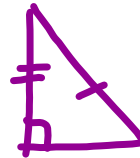
ASA



SAS



HL



AAS



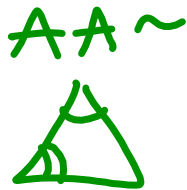
ASSUME

Reflexive

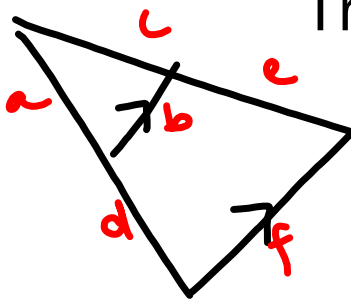
$$\forall A \cong A$$

$$\forall A \cong A$$

Similarity



Triangle Proportionality



$$\frac{a}{c} = \frac{d}{e}$$

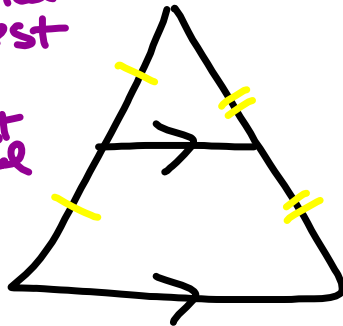
$$\frac{a}{b} = \frac{a+d}{f}$$

$$\frac{a+d}{e+c} = \frac{b}{f}$$

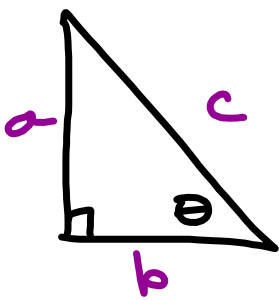
Midsegment Theorem

Mid = $\frac{1}{2}$ Longest ^{parallel}

2 Mid = Longest ^{parallel}



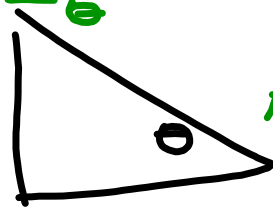
Right Triangle Trig



$$\sin \theta = \frac{O}{H} = \frac{a}{c}$$

$$\cos \theta = \frac{A}{H} = \frac{b}{c}$$

$$\tan \theta = \frac{O}{A} = \frac{a}{b}$$



Angle of Depression = Angle of elevation

find θ ? Use inverse.

$$\sin^{-1}\left(\frac{a}{c}\right) = \theta$$

Quadrilaterals

Name: _____ Date: _____

Properties of Quadrilaterals

Property	Parallelogram	Rectangle	Rhombus	Square	Trapezoid	Isosceles Trapezoid	Kite
opposite sides parallel	Yes	Yes	Yes	Yes	No	No	No
opposite sides congruent	Yes	Yes	Yes	Yes	No	No	No
opposite angles congruent	Yes	Yes	Yes	Yes	No	No	No
all sides congruent	No	No	Yes	Yes	No	No	No
diagonals form two congruent triangles	Yes	Yes	Yes	Yes	No	No	No
diagonals are congruent	No	Yes	No	Yes	No	Yes	No
diagonals are perpendicular	No	No	Yes	Yes	No	No	Yes
diagonals bisect each other	Yes	Yes	Yes	Yes	No	No	No
diagonals bisect opposite angles	No	No	Yes	Yes	No	No	No
all angles are right angles	No	Yes	No	Yes	No	No	No
any pair of consecutive angles are supplementary	Yes	Yes	Yes	Yes	No	No	No
one diagonal is perpendicular bisector of other	No	No	No	No	No	No	Yes
one diagonal bisects a pair of opposite angles	No	No	No	No	No	No	Yes
one pair of opposite angles are congruent	No	No	No	No	No	No	Yes
each pair of base angles are congruent	No	No	No	No	No	Yes	No
any lower base angle is supp. to any upper base angle	No	No	No	No	Yes	Yes	No