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ANGLE FORMULAS

FINDING ANGLE FUNCTIONS

Side opposite / Hypotenuse	=	SINE
Side adjacent / Hypotenuse	=	COSINE
Side opposite / Side adjacent	=	TANGENT
Side adjacent / Side opposite	=	COTANGENT
Hypotenuse / Side adjacent	=	SECANT
Hypotenuse / Side opposite	=	COSECANT

FINDING SIDE LENGTHS FOR RIGHT-ANGLE TRIANGLES

Length of side opposite	Hypotenuse x Sine
	Hypotenuse ÷ Cosecant
	Side adjacent x Tangent
	Side adjacent ÷ Cotangent
Length of side adjacent	Hypotenuse x Cosine
	Hypotenuse ÷ Secant
	Side opposite x Cotangent
	Side opposite ÷ Tangent
Length of Hypotenuse	Side opposite x Cosecant
	Side opposite ÷ Sine
	Side adjacent x Secant
	Side adjacent ÷ Cosine

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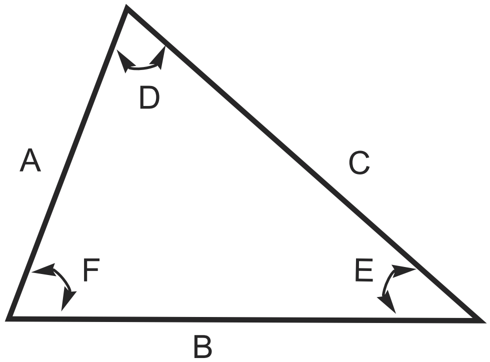
OBLIQUE TRIANGLES



A	B - D - E	$\frac{B \times SIN\ E}{SIN\ D} = A$
B	A - D - E	$\frac{A \times SIN\ D}{SIN\ E} = B$
C	A - F - E	$\frac{A \times SIN\ F}{SIN\ E} = C$
C	B - F - D	$\frac{B \times SIN\ F}{SIN\ D} = C$
D	E & F	$180° - (E° + F°) = D°$
D	A - B - F	$\frac{B \times SIN\ F}{A - (B \times COS\ F)} = TAN\ D$
D	A - B - C	$\frac{C^2 + A^2 - B^2}{2 \times C \times A} = COS\ D$
D	A - B - E	$\frac{B \times SIN\ E}{A} = SIN\ D$
E	D & F	$180° - (D° + F°) = E°$
E	A - B - F	$\frac{B \times COSEC\ F}{A} - COT\ F = COT\ E$
E	A - C - F	$\frac{A \times SIN\ F}{C} = SIN\ E$
E	A - B - D	$\frac{A \times SIN\ D}{B} = SIN\ E$
F	D & E	$180° - (D° + E°) = F°$
F	C - D - B	$\frac{C \times SIN\ D}{B} = SIN\ F$
AREA	A - B - F	$\frac{A \times B \times SIN\ F}{2} = AREA$

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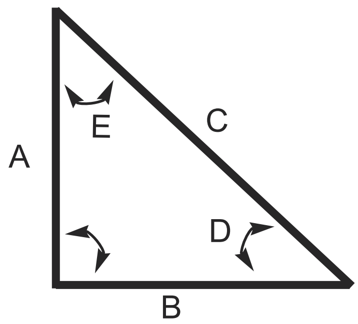
RIGHT TRIANGLES



A	C & D	C x SIN D = A	$\frac{C}{\text{COSEC } D} = A$
A	C & E	C x COS E = A	$\frac{C}{\text{SEC } E} = A$
A	B & D	B x TAN D = A	$\frac{B}{\text{COT } D} = A$
A	B & E	B x COT E = A	$\frac{B}{\text{TAN } E} = A$
A	C & B	$\sqrt{C^2 - B^2} = A$	
B	C & D	C x COS D = B	$\frac{C}{\text{SEC } D} = B$
B	C & E	C x SIN E = B	$\frac{C}{\text{COSEC } E} = B$
B	A & D	A x COT D = B	$\frac{A}{\text{TAN } D} = B$
B	A & E	A x TAN E = B	$\frac{A}{\text{COTAN } E} = B$
B	C & A	$\sqrt{C^2 - A^2} = B$	
C	A & D	A x COSEC D = C	$\frac{A}{\text{SIN } D} = C$
C	A & E	A x SEC E = C	$\frac{A}{\text{COS } E} = C$
C	B & E	B x COSEC E = C	$\frac{B}{\text{SIN } E} = C$
C	B & D	B x SEC D = C	$\frac{B}{\text{COS } D} = C$
C	A & B	$\sqrt{A^2 + B^2} = C$	

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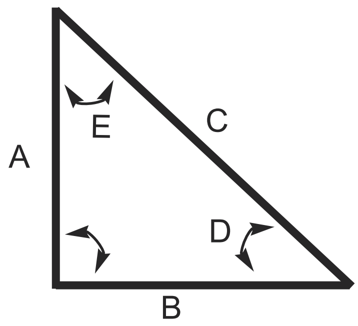
RIGHT TRIANGLES



D	A & C	$\frac{A}{C}$ = SIN D	$\frac{C}{A}$ = COSEC D
D	B & C	$\frac{B}{C}$ = COS D	$\frac{C}{B}$ = SEC D
D	A & B	$\frac{A}{B}$ = TAN D	$\frac{B}{A}$ = COT D
D	E	90° - E° = D°	
E	B & C	$\frac{B}{C}$ = SIN E	$\frac{C}{B}$ = COSEC E
E	A & C	$\frac{A}{C}$ = COS E	$\frac{C}{A}$ = SEC E
E	A & B	$\frac{B}{A}$ = TAN E	$\frac{A}{B}$ = COT E
E	D	90° - D° = E°	
AREA	A & B	$\frac{A \times B}{2}$ = AREA	
AREA	A & D	$\frac{A^2 \times \text{COT D}}{2}$ = AREA	
AREA	B & D	$\frac{B^2 \times \text{TAN D}}{2}$ = AREA	
AREA	C & D	$\frac{C^2 \times \text{SIN 2D}}{4}$ = AREA	