

PROJECT

**SPECIAL ANGLE COMPUTATION**

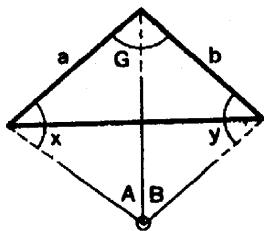
For use of this form, see FM 3-34.331; the proponent agency is TRADOC.

LOCATION

DATE (YYYYMMDD)

ORGANIZATION

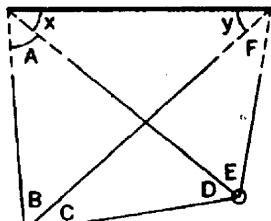
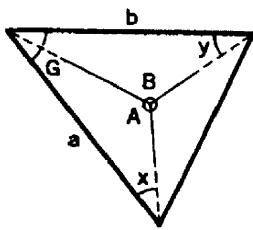
CASE USED

1. 2. 3. 

Case 1

$$\frac{\sin x}{\sin y} = \frac{b \sin A}{a \sin B} = \tan \alpha$$

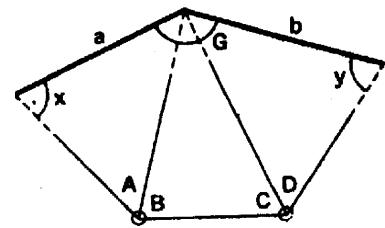
THREE-POINT PROBLEM



Case 2

$$\frac{\sin x}{\sin y} = \frac{\sin A \sin C \sin E}{\sin B \sin D \sin F} = \tan \alpha$$

INACCESSIBLE BASE PROBLEM



Case 3

$$\frac{\sin x}{\sin y} = \frac{b \sin A \sin C}{a \sin B \sin D} = \tan \alpha$$

SPECIAL ANGLE PROBLEM

$$\frac{1}{2}(x+y) =$$

$$\left\{ \begin{array}{l} \text{Case 1: } 180^\circ - \frac{1}{2}(A+B+G) = \\ \text{Case 2: } \frac{1}{2}(C+D) = \\ \text{Case 3: } 270^\circ - \frac{1}{2}(A+B+C+D+G) = \end{array} \right.$$

Leave blanks below here for values not involved in the CASE used.

log b		log a	
log sin A		log sin B	
log sin C		log sin D	
log sin E		log sin F	
* ① Sum		* ② Sum	
- ② -		- ① -	
log tan α		log tan α	
α	°      '      "	α	°      '      "
α-45°		α-45°	
log tan $\frac{1}{2}(x+y)$		log tan $\frac{1}{2}(x+y)$	
log tan (α-45°)		log tan (α-45°)	
Sum = log tan $\frac{1}{2}(x-y)$		Sum = log tan $\frac{1}{2}(y-x)$	
$\frac{1}{2}(x-y)$	°      '      "	$\frac{1}{2}(y-x)$	°      '      "
$\frac{1}{2}(x+y)$		$\frac{1}{2}(y+x)$	
x		y	
y		x	

α is an auxiliary angle needed only for the computation: it is always between 45° and 90°

\* Where ① is greater than ② use only the left side of the form below here, and vice versa.

COMPUTED BY

DATE (YYYYMMDD)

CHECKED BY

DATE (YYYYMMDD)