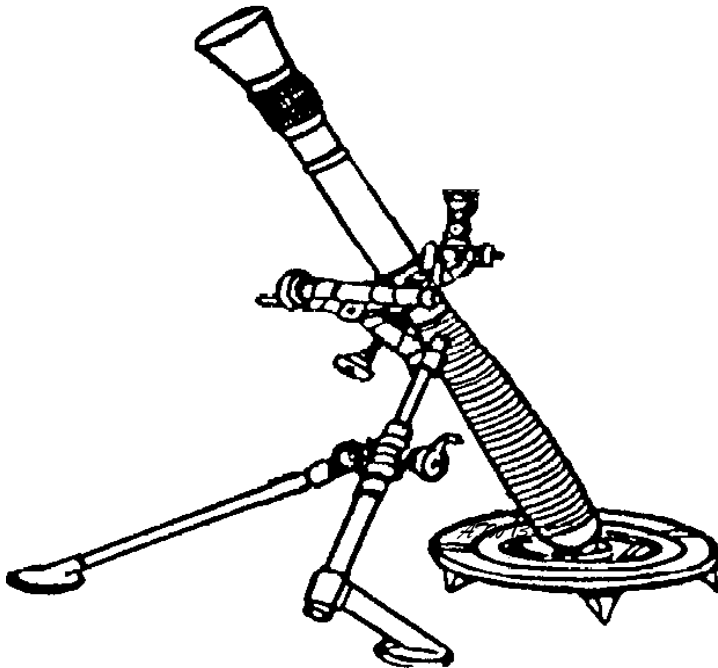


TEAM DRILL #4

81mm M16 PLOTTING BOARD ADVANCED PROCEDURES



**UNITED STATES ARMY INFANTRY SCHOOL
INFANTRY MORTAR LEADER COURSE
MTR CO 1ST BATTALION 19TH INFANTRY REGIMENT
FT. BENNING, GEORGIA 31905
AUGUST 2021**

TEAM DRILL #4

ADVANCED MISSIONS 81mm

M16 PLOTTING BOARD

PURPOSE: This team drill is intended to give the student a working knowledge of the techniques used in computing advanced missions for the 81mm mortar. When you have successfully completed this drill, you will have the basic working knowledge required of an FDC computer to compute advanced missions.

REFERENCES:

TC 3-22.91

ATP 3-09.30

Ft. Benning Map

SITUATION A: You are the computer in an 81mm Mortar Platoon which has just moved to vicinity 0200/6500. Construct a modified observed chart with the data below.

DATA SHEET																			
For use of this form, see TC 23-91. The proponent agency is TRADOC.																			
G.I. 04 / 64																			
SETUP				WEAPON DATA								FO DATA							
TIME OUT:				UNIT:		WPN :		WPN :		FO		ALT		GRID					
TGT PREFIX: CA																			
TGT NO: 0700-0800				81 MM CAR ☐ YES		DIR :		DIR :		DIS :		DIS :							
ALARM ☐ ON ☐ OFF				M252 ☒ NO															
MIN E:				BP: #2		WPN :		WPN :		FO		ALT		GRID					
MIN N:				GUN ATT: 1080															
GD: ☐ E ☐ W				E: 0200		DIR :		DIR :		DIS :		DIS :							
LAT: ☐ + ☐ -				N: 6500															
LISTEN: ☐ ON ☐ OFF				ALT: 400		WPN :		WPN :		FO		ALT		GRID					
BIT RATE				AZ: 2700															
KEY TONE				DEF: 0700		DIR :		DIR :		DIS :		DIS :							
BLK ☐ SNG ☐ DBL				ELE:															
OWNER ID:																			
AMMUNITION DATA																			
TEMPERATURE: TYPE: ☒ HE ☐ WP ☒ ILL ☐ CS ☐ TNG ☒ RP																			
LOT#		M821		M819RP		M301A3													
WHEIGHT/ TYPE																			
ON HAND																			
RECEIVED																			
TOTAL																			
ROUNDS EXPENDED																			
ROUNDS REMAINING																			
TARGET DATA																			
TARGET ID			CHART DATA		FIRING CORRECTIONS				FIRING DATA				INTELLIGENCE				ROUND		
TGT #	GRID	ALT	DEF	RNG /CHG	DEFL CORR	RNG CORR	ALT VI	ALT CORR	DEFL	RNG /CHG	F.S.	ELE	TIME FIRED	TARGET DESCRIPTION	METHOD OF ENGAGEMENT	SURV	EXP		
RP1			0721	3400			460 +60	+30	0721	3425 3		1164		RP1					
CA 0700																			
CA 0701																			
CA 0702																			

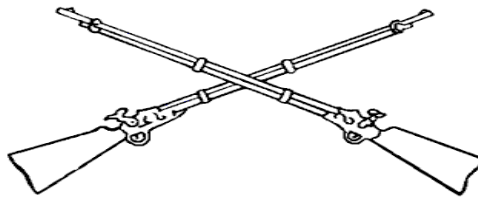
[illegible]

SITUATION C: The Platoon Leader hands you the following call for fire. Compute the mission and update your data sheet.

COMPUTER'S RECORD For use of this form, see TC 3-22.91; the proponent agency is TRADOC												
ORGANIZATION SITUATION C				DATE		TIME		OBSERVER ID D 61			TARGET NUMBER CA 0701	
☒ ADJUST FIRE ☐ FIRE FOR EFFECT ☐ IMMEDIATE SUPPRESSION				SHIFT FROM _____				POLAR				
GRID 038 629 OT DIRECTION 2400 ALTITUDE 420				OT DIRECTION _____ ALTITUDE _____				OT DIRECTION _____ ALTITUDE _____				
				☐ LEFT / ☐ RIGHT ☐ ADD / ☐ DROP ☐ UP / ☐ DOWN				DISTANCE _____ VERTICAL INTERVAL _____ ☐ UP / ☐ DOWN VERTICAL ANGLE _____ ☐ + ☐ _____				
				Company in Open (C.I.O.) W240 x L50 ATT: 1100				INITIAL CHART DATA DEFLECTION _____ DEFLECTION CORRECTION ☐ L ☐ R RANGE _____ VI/ALT CORRECTION ☐ + ☐ - RANGE CORRECTION ☐ + ☐ - CHARGE _____ RANGE _____ AZIMUTH _____ ANGLE T _____				
TARGET DESCRIPTION												
METHOD OF ENGAGEMENT												
FDC ORDER				INITIAL CHART DATA				INITIAL FIRE COMMAND				ROUNDS EXPENDED
MORTAR TO FFE SEC				DEFLECTION _____ DEFLECTION CORRECTION ☐ L ☐ R RANGE _____ VI/ALT CORRECTION ☐ + ☐ - RANGE CORRECTION ☐ + ☐ - CHARGE _____ RANGE _____ AZIMUTH _____ ANGLE T _____				MORTAR TO FOLLOW _____				MAX ORD _____ TOF _____ MARK TIME _____
MORTAR TO ADJ #2								SHELL AND FUZE _____				
METHOD OF ADJ 1 RD								MORTAR TO FIRE _____				
BASIS FOR CORRECTION _____								METHOD OF FIRE _____				
SHEAF CORRECTION SPL				DEFLECTION _____ CHARGE _____ ELEVATION _____ TIME SETTING _____				DEFLECTION _____				
SHELL AND FUZE HEQ I/ADJ								CHARGE _____				
PROX I/FFE								ELEVATION _____				
METHOD OF FFE _____								TIME SETTING _____				
RANGE LATERAL SPREAD _____				DEFLECTION _____ CHARGE _____ ELEVATION _____ TIME SETTING _____				TIME SETTING _____				
TIME OF OPENING FIRE W / R								TIME SETTING _____				
MOC TYPE WR ☒ AMC ☐ TOT ☐ OTH ☐								TIME SETTING _____				
MOC TYPE WR ☒ AMC ☐ TOT ☐ OTH ☐								TIME SETTING _____				
OBSERVER CORRECTION			CHART/SAFETY DATA			SUBSEQUENT COMMANDS						
DEV	RANGE	TIME (HEIGHT)	DEF/AZ	RANGE	MORTAR FIRE	METHOD FIRE	AIM AZIMUTH	DEFLECTION	CHARGE	TIME	ELEV	
L120												
	-100											
	-50	FFE			PREPARE TO TRAVERSE RIGHT							
					TRAVERSE RIGHT _____ TURN(S)							
				EOM								
BATTLE DAMAGE ASSESSMENT (BDA): EST. 50% CASUALTIES AIM POINT GRID: _____ DA FORM 2399, MAY 2017 PREVIOUS EDITIONS ARE OBSOLETE. APD LC v1.00												

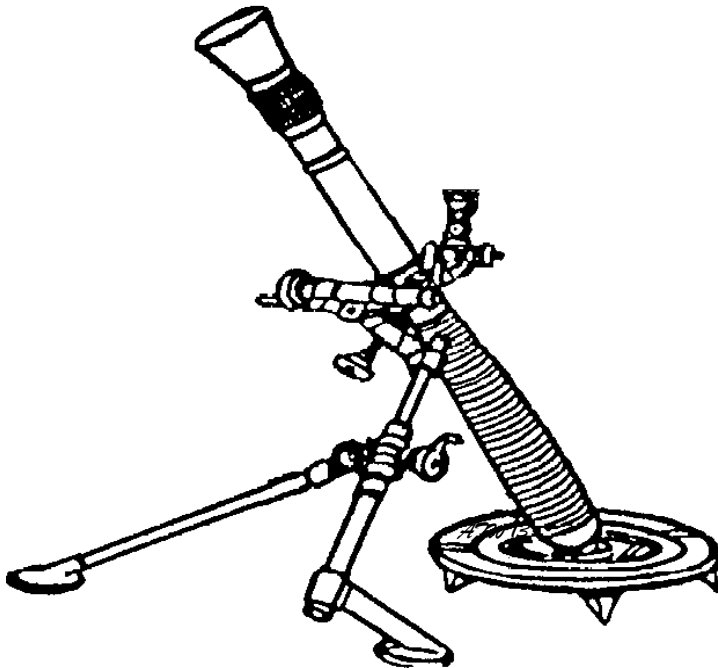
[illegible]

[illegible]



TEAM DRILL #4 SOLUTIONS

81mm M16 PLOTTING BOARD ADVANCED PROCEDURES



**UNITED STATES ARMY INFANTRY SCHOOL
INFANTRY MORTAR LEADER COURSE
MTR CO 1ST BATTALION 19TH INFANTRY REGIMENT
FT. BENNING, GEORGIA 31905
AUGUST 2021**

DATA SHEET																			
For use of this form, see TC 23-91. The proponent agency is TRADOC.																			
SETUP					WEAPON DATA								FO DATA						
TIME OUT:					UNIT:		WPN : DIR : DIS :		WPN : DIR : DIS :		EO		ALT		GRID				
TGT PREFIX: CA																			
TGT NO: 0700-0800					81 MM CAR ☐ YES														
ALARM ☐ ON ☐ OFF					M252 ☒ NO														
MIN E:					BP: #2		WPN : DIR : DIS :		WPN : DIR : DIS :										
MIN N:					GUN ATT: 1080														
GD: ☐ E ☐ W					E: 0200														
LAT: ☐ + ☐ -					N: 6500														
LISTEN: ☐ ON ☐ OFF					ALT: 400		WPN : DIR : DIS :		WPN : DIR : DIS :										
BIT RATE					AZ: 2700														
KEY TONE					DEF: 0700														
BLK ☐ SNG ☐ DBL					ELE:														
OWNER ID:																			
AMMUNITION DATA																			
TEMPERATURE:					TYPE: ☒ HE ☐ WP ☒ ILL ☐ CS ☐ TNG ☒ RP														
LOT#		M821		M819RP		M301A3													
WHEIGHT/ TYPE																			
ON HAND																			
RECEIVED																			
TOTAL																			
ROUNDS EXPENDED																			
ROUNDS REMAINING																			
TARGET DATA																			
TARGET ID			CHART DATA		FIRING CORRECTIONS				FIRING DATA				INTELLIGENCE				ROUND		
TGT #	GRID	ALT	DEF	RNG /CHG	DEFL CORR	RNG CORR	ALT VI	ALT CORR	DEFL	RNG /CHG	F.S.	ELE	TIME FIRED	TARGET DESCRIPTION	METHOD OF ENGAGEMENT	SURV	EXP		
RP1			0721	3400			460 +60	+30	0721	3425 3		1164		RP1					
CA 0700	034 630		0874	2575			480 +80	+40	0874	2625 2		1141		CO. ASSY AREA	SEC 8 RD PROX	30% CAS	34		
CA 0701	038 629		0961	2600			420 +20	0	0961	2		1147		CO. I/OPEN	SEC 2 RD PROX	50% CAS.	11		
CA 0702	032 626		0695	2650			330 -70	-35	0695	2625 2		1141		TRPS DIGGING	#2,3,4 3 RD PROX	40% CAS	ILL 6 HE 10		

COMPUTER'S RECORD

For use of this form, see TC 3-22.91; the proponent agency is TRADOC

ORGANIZATION SITUATION B	DATE	TIME	OBSERVER ID D 60	TARGET NUMBER CA 0700
☒ ADJUST FIRE ☐ FIRE FOR EFFECT ☐ IMMEDIATE SUPPRESSION	SHIFT FROM _____ OT DIRECTION _____ ALTITUDE _____		POLAR OT DIRECTION _____ ALTITUDE _____ DISTANCE _____ VERTICAL INTERVAL _____ ☐ UP / ☐ DOWN VERTICAL ANGLE _____ ☐ + ☐ _____	
GRID 034 630 OT DIRECTION 2300 ALTITUDE 480	☐ LEFT / ☐ RIGHT ☐ ADD / ☐ DROP ☐ UP / ☐ DOWN			

TARGET DESCRIPTION **Company Assembly Area**

METHOD OF ENGAGEMENT **100 x 200 ATT: 2700**

FDC ORDER	INITIAL CHART DATA	INITIAL FIRE COMMAND	ROUNDS EXPENDED
MORTAR TO FFE SEC MORTAR TO ADJ #2 METHOD OF ADJ 1 RD BASIS FOR CORRECTION _____ SHEAF CORRECTION _____ SHELL AND FUZE HEQ I/ADJ PROX I/FFE METHOD OF FFE 8 RDS RANGE LATERAL SPREAD _____ TIME OF OPENING FIRE W / R MOC TYPE WR ☒ AMC ☐ TOT ☐ OTH ☐	DEFLECTION 0821 DEFLECTION CORRECTION ☐ L ☐ R RANGE 2450 VI/ALT CORRECTION +80 ☒ + ☐ - +40 RANGE CORRECTION ☐ + ☐ - CHARGE 2 RANGE 2500 AZIMUTH 2579 ANGLE T 280	MORTAR TO FOLLOW SEC SHELL AND FUZE HEQ MORTAR TO FIRE #2 METHOD OF FIRE 1 RD I/ADJ 8 RDS PROX I/FFE DEFLECTION 0821 CHARGE 2 ELEVATION 1170 TIME SETTING _____	1 MAX ORD 1548m TOF 35.7 MARK TIME

OBSERVER CORRECTION			CHART/SAFETY DATA		SUBSEQUENT COMMANDS						
DEV	RANGE	TIME (HEIGHT)	DEF/AZ	RANGE +40	MORTAR FIRE	METHOD FIRE	AIM AZIMUTH	DEFLECTION	CHARGE	TIME	ELEV
L100	+100		0872	2525				0872	2575		1153
	+50	FFE	0874	2575	SEC	8 RDS PROX		SEARCH UP 1/2 TURN(S)			
								0874	2725		1117
					EOM						
			Final Chart Data	2575							
			1/2 Tgt Area	+ 100			2575 Col. 4= 2 turns per 100 meters				
			Alt Correction	+40			2 x 2(Tgt area expressed in 100's)=4 Turns				
			Far Edge Range For Elevation	2725			Intervals: 4 divided by 7 = 0.5(1/2) turn between rounds				

BATTLE DAMAGE ASSESSMENT (BDA): **EST 30% CASUALTIES**

AIM POINT GRID:

DA FORM 2399, MAY 2017

PREVIOUS EDITIONS ARE OBSOLETE.

APD LC v1.00

COMPUTER'S RECORD

For use of this form, see TC 3-22.91; the proponent agency is TRADOC

ORGANIZATION SITUATION C				DATE		TIME		OBSERVER ID D 61		TARGET NUMBER CA 0701		
☒ ADJUST FIRE ☐ FIRE FOR EFFECT ☐ IMMEDIATE SUPPRESSION				SHIFT FROM _____ OT DIRECTION _____ ALTITUDE _____ ☐ LEFT / ☐ RIGHT _____ ☐ ADD / ☐ DROP _____ ☐ UP / ☐ DOWN _____				POLAR OT DIRECTION _____ ALTITUDE _____ DISTANCE _____ VERTICAL INTERVAL _____ ☐ UP / ☐ DOWN VERTICAL ANGLE _____ ☐ + ☐ _____				
GRID 038 629 OT DIRECTION 2400 ALTITUDE 420												
TARGET DESCRIPTION Company in Open (C.I.O.)												
METHOD OF ENGAGEMENT 240 x 50 ATT: 1100												
FDC ORDER				INITIAL CHART DATA				INITIAL FIRE COMMAND				ROUNDS EXPENDED
MORTAR TO FFE SEC				DEFLECTION 0918				MORTAR TO FOLLOW SEC				①
MORTAR TO ADJ #2				DEFLECTION CORRECTION				SHELL AND FUZE HEQ				
METHOD OF ADJ 1 RD				☐ L ☐ R RANGE 2750				MORTAR TO FIRE #2				
BASIS FOR CORRECTION _____				VI/ALT CORRECTION +20				METHOD OF FIRE 1 RD I/ADJ				MAX ORD 1468m
SHEAF CORRECTION SPL				☐ + ☐ - 0				2 RDS PROX I/FFE DEFLECTION 0918				
SHELL AND FUZE HEQ I/ADJ				RANGE CORRECTION				CHARGE 2				TOF 34.8
PROX I/FFE				☐ + ☐ - CHARGE 2				ELEVATION 1110				
METHOD OF FFE 2 RDS				RANGE				TIME SETTING _____				MARK TIME
RANGE LATERAL SPREAD _____				AZIMUTH 2482								
TIME OF OPENING FIRE W / R				ANGLE T 80								
MOC TYPE WR ☒ AMC ☐ TOT ☐ OTH ☐												
OBSERVER CORRECTION			CHART/SAFETY DATA			SUBSEQUENT COMMANDS						
DEV	RANGE	TIME (HEIGHT)	DEF/AZ	RANGE	MORTAR FIRE	METHOD FIRE	AIM AZIMUTH	DEFLECTION	CHARGE	TIME	ELEV	
L120			0964	2750				0964			1110	
	-100		0962	2650				0962			1135	
	-50	FFE	0961	2600	PREPARE TO TRAVERSE RIGHT							
					TRAVERSE RIGHT 2 TURN(S)							
					SEC	2 RDS PROX		#1:0952				
								#2:0961				
								#3:0969				
								#4:0976			1147	
					EOM							
BATTLE DAMAGE ASSESSMENT (BDA): EST. 50% CASUALTIES AIM POINT GRID:												

For use of this form, see TC 3-22.91; the proponent agency is TRADOC

AIM POINT GRID:

For use of this form, see TC 3-22.91; the proponent agency is TRADOC

DA FORM 2399, MAY 2017

AIM POINT GRID:

PREVIOUS EDITIONS ARE OBSOLETE.

APD LC v1.00