

Exp. 1: Line measurement and Mapping

* Group name : 1. Samya Izzeldcen
2. Alaa Subok
3. Ghazi Mohammad
4. Ashraf Odeh

* Date : 26 / 6 / 2019

* Weather : Too Sunny weather with T° reaches almost 33° and a wind speed that reached 25 km/h

* Location : Behind the Engineering Building

* Instrument : 1. Two tapes
2. Three range rods
3. Stone
4. chalk

⇒ Mapping by ties and offsets

points	offset		ties			
	d_1	d_2	d_1	d_2	d_1	d_2
P_1	10.38 m	59 cm				
P_2	8.57 m	11 cm				
P_3	5.10 m	2.46 m				
P_4	11.93 m	1.65 m				
P_5	14.60 m	3.33				
P_6			8 m	4.33 m	11 m	4.32 m
P_7			8 m	1.5 m	11 m	2.92 m







Angle of deviation from north = zero degree

$$\alpha = 1^\circ$$

Radius of manhol = 30 cm

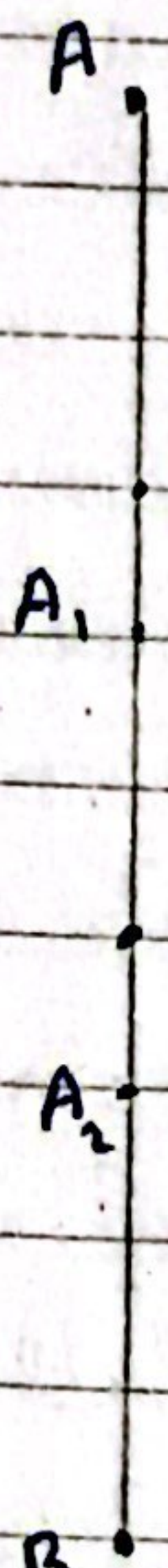
The tape has some significant error, that can not be avoided which is that the tape was broken until 4.95 m so this readings should not been taken in measurement so the reading start at 4.95



- | | | | | | |
|----------|---|---------|--|---------------|---|
| Building |  | Tree |  | electric pole |  |
| concrete |  | Manhole |  | Street |  |

⇒ Taping

* Known distance = 43.61 m

	Forward	Backward	
	$AA_1 = 13.58$	$BA_3 = 18.33$	
	$A_1A_2 = 11.89$	$A_3A_4 = 12.42$	
	$A_2B = 17.96$	$A_4A = 12.88$	
	<u>$AB = 43.43$</u>	<u>$BA = 43.63$</u>	← total

- * $BA = 18.33 + 12.42 + 12.88 = 43.63$

* $AB = 13.58 + 11.89 + 17.96 = 43.43$

- Avg distance = $\frac{AB + BA}{2} = \frac{43.63 + 43.43}{2} = 43.53$

- Error = $\left| \text{measured distance} - \text{known distance} \right|$

$= \left| 43.53 - 43.61 \right|$

$= 0.08$

- R.P = $1 / (\text{measured distance} / \text{error})$

$= 1 / (43.53 / 0.08)$

$= \frac{1}{544.13}$

Exp.2: Practicing The Level

* Group name :
1. Samya Izzeldeen
2. Alda Suboh
3. Ghazi Mohammad
4. Ashraf Odeh

* Date: 1/7/2019

* Weather: —

* Location: In the Lab

* Instrument: Level
staffs

Student name	point	r_1	r_2	r_3	HT	h_1	Error
St. 1 Alaa	A	1.555	1.495	1.437	101.495	100.000m	0.001
	B ₁	1.539	1.493	1.449	101.495	100.002m	0.001
St. 2 Samya	A	1.553	1.496	1.436	101.496	100.000m	0.0005
	B ₂	1.538	1.493	1.449	101.496	100.003m	0.0005
St. 3 Ghazi	A	1.559	^{1.510} 1.499	1.461	101.510	100.000m	0
	B ₁	1.181	1.125	1.069	101.510	100.385m	0
St. 4 Ashraf	A	1.558	1.509	1.461	101.509	100.000m	0.0005
	B ₂	1.171	1.125	1.079	101.509	100.389m	0

Shuroq

1/7/2019

Exp. 3 closed Link Leuding

* Group name :
1. Samya Izzeldeen
2. Alha Suboh
3. Ghazi Mohammad
4. Ashraf Odeh

* Date : 3/7/2019

* Weather : Too Sunny with little wind.

* Location : Behind the Engineering Building

* Instrument : level
staff

Exp 4. Profile and cross section

* Group name : 1. Samya Izzeldeen
2 Alua Suboh
3 Ghazi Mohammad
4. Ashraf Odeh

* Date : 8 / 7 / 2019

* Weather : Too sunny with wind holding
dirts

* Location : Near nursing building

* Instrument : Level
Staff

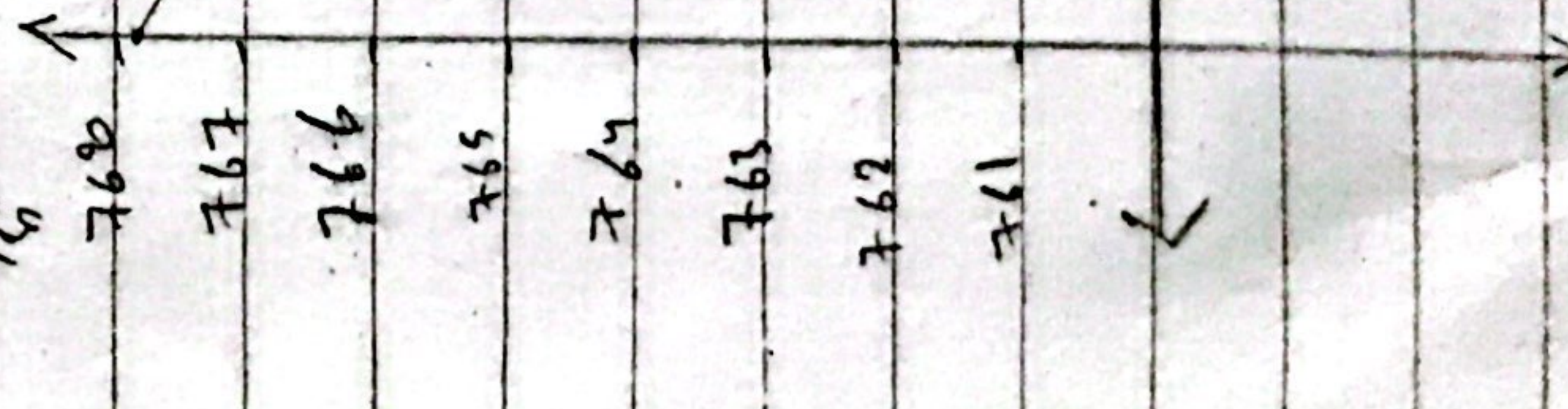
* cross Section



7m

Profile

* Profile



$$\text{slope} = \frac{\Delta \text{elevation}}{\Delta \text{station}}$$

$$= \frac{765.294 - 766.189}{30 - 20}$$

$$= -8.95$$

Station

1/20

point	B.S	I.S	F.S	H.T	elevation	D _{B.S}	D _{F.S}	C _i	corrected elevation
BM	0.860 0.822 0.785			768.152	767.330	7.5			767.330
10		0.233			767.919				767.919
20		1.088			767.064				767.064
30		1.963			766.189				766.189
40			2.948	765.684	765.294	14.7	18		765.294
A	0.462 0.390 0.315	1.307	2.858		764.377				764.377
50	0.812 0.768 0.722	1.446 1.566	2.291 2.232 2.172	764.22	763.452	9	11.0		763.452
60		1.778			762.442				762.442
70	2.888 2.821 2.754		2.558 2.479 2.400	764.22	761.741	15.8	15.8		761.741
C ₁	2.888 1.938 1.912		0.235 0.164 0.094	766.877	764.056	13.4	14.1		764.056
C ₂			0.718 0.658 0.598	768.157	766.219	5.5	12		766.219
BM			0.887 0.827 0.769		767.330		11.8		767.330
Σ = 9.218 Σ = 6.260 Σ = 9.218									

8/7/2019
Shubh
13.4

Exp. 5 Practice using Theodolite

* Group name : 1. Samya Irzeldcen
2. Alaa Subok
3. Ghazi Mohammad
4. Ashraf Odeh

* Date : 10/7/2019

* Weather: —

* Location: In the Lab

* Instrument: Theodolite

Shwag
10/7/2019

Student name	Sta	Point	H R	HA	V
Alaa	A	B	352° 01' 48"	49° 44' 41"	90° 10' 36"
	B	C	41° 46' 27"		90° 05' 52"
Ashraf	A	B	352° 01' 51"	49° 44' 18"	90° 05' 52"
	B	C	41° 46' 09"		90° 05' 52"
Sami			0° 00' 00"		86° 40' 50"
			50° 28' 24"	50° 28' 24"	94° 37' 48"
Zayn			69° 59' 58"		94° 24' 21"
			121° 45' 09"	51° 45' 06"	

Exp. 6 Measuring height of object using Stadia

* Group name:

1. Samya Izzeldeen
2. Alan Suboh
3. Ghazi Mohammad
4. Ashraf Odeh
5. Wafaa Jamhour

* Date: 15/7/2019

* Weather: Too sunny with little wind

* Location: In the ground play behind the Eng. Building

* Instrument:

1. tape
2. staff
3. theodolite

Station	Point	HCR	Staff reading			Z.A	H.I
			r_1	r_2	r_3		
A	BM	—	2.028	1.832	1.635	$89^{\circ} 16' 54''$	1.46
A	B	$0^{\circ} 0' 2''$	1.962	1.572	1.178	$91^{\circ} 6' 3''$	—
	C	$54^{\circ} 19' 41''$	—	—	—	$75^{\circ} 48' 19''$	—
B	C	$0^{\circ} 0' 2''$	—	—	—	—	—
	A	$93^{\circ} 25' 28''$	—	—	—	—	—

~~Survey~~
 10/11/20
 23.32

Exp. 7 Total Station

* Group name :

1. Samya Izzeldeen
2. Alaa Suboh
3. Ghazi Mohammad
4. Ashraf Odeh
5. Wafaa Jamhour

* Date : 27 / 7 / 2019

* Weather : —

* Location : In the lab

* Instrument :

Station	Point	Z	H.C.R	H.D	V.D	S.D	H.I	R.H	E	N	I
A.	A ₁	89° 50' 29"	31° 23'	9.373	2.154	9.373	1.480	1.660	193.655	306.898	399.846
	A ₃	89° 15' 18"	25° 07' 12"	10.280	0.029	10.281	1.480	1.660	189.979	297.708	399.969
	B ₁	89° 15' 20"	33° 28' 47"	12.236	0.021	12.237	1.480	1.660	195.703	311.457	399.980
B.	B ₃	89° 01' 40"	35° 24' 15"	16.319	0.014	16.320	1.480	1.660	198.458	316.203	399.986

Exp. 8

Traverse

* Group name:

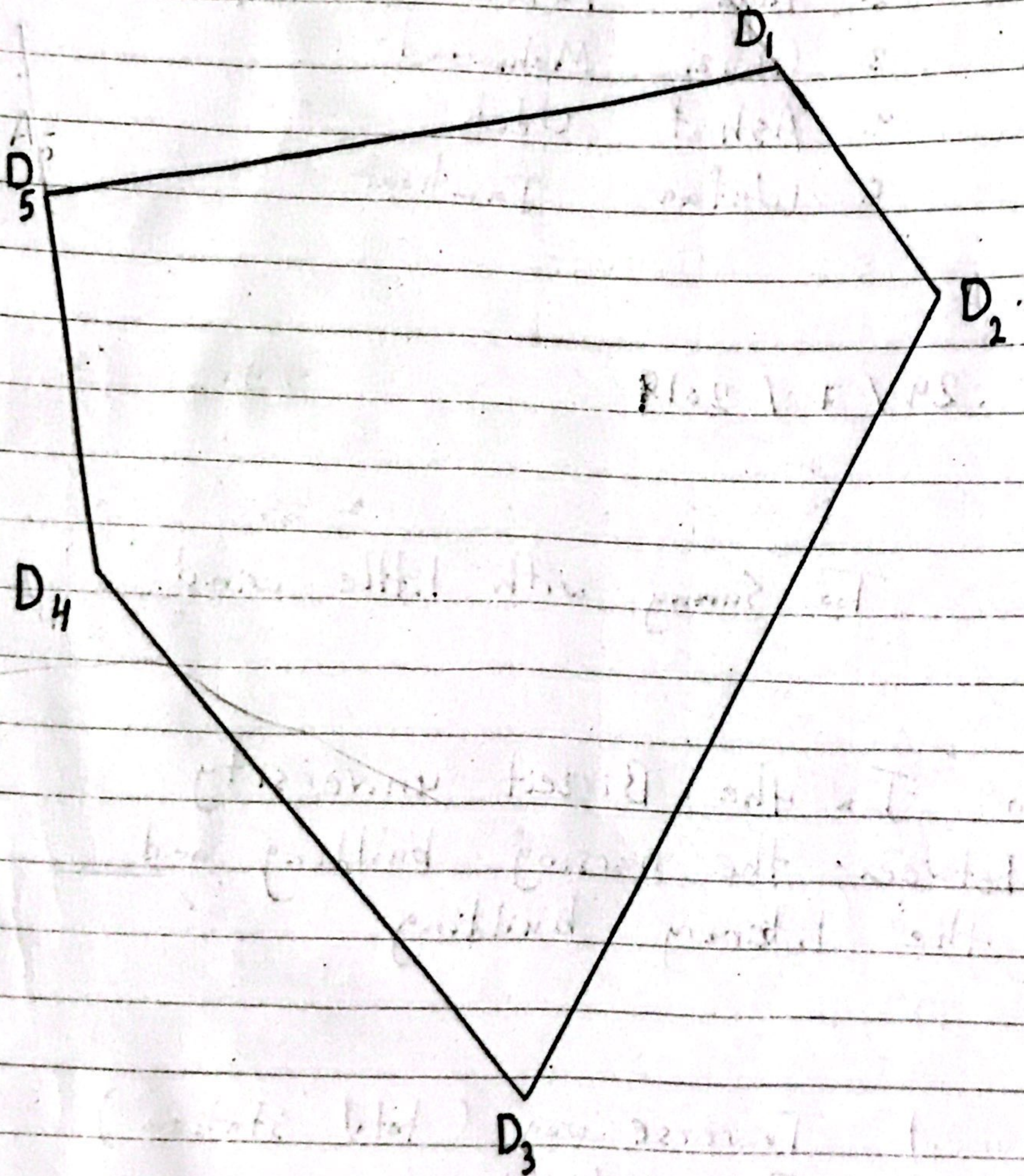
1.	Samya	Izzeldeen
2.	Alaa	Suboh
3.	Ghazi	Mahmud
4.	Ashraf	Odeh
5.	Wafaa	Jamhour

* Date: 24 / 7 / 2019

* Weather: Too sunny with little wind.

* Location: In the Birzeit university
between the nursing building and
the literary building

* Instrument: Traverse way (total station)
Two Reflectors
Tape
Tripode



Station	Point	HCR	ZA	SD	HD	VD	HI	HR
BH ₁ A ₁	BH ₂	0° 0' 0"					1.1	
	A ₂	274° 44' 09"						
A ₁	A ₂	0° 0' 0"	88° 17' 57"	41.181	41.163	1.223	1.45°	1.65°
	A ₅	70° 46' 49"	04° 55' 58"	86.387	86.067	7.428	1.45°	1.65°
A ₂	A ₂	0° 0' 0"	90° 0' 16"	60.351	60.351	-0.004	1.550	1.65°
	A ₁	147° 26' 17"	91° 18' 36"	41.246	41.235	-0.943	1.550	1.65°
A ₃	A ₄	0° 0' 0"	97° 25' 25"	43.754	43.387	-5.653	1.43°	1.65°
	A ₂	94° 20' 37"	89° 40' 3"	60.295	60.294	0.750	1.43°	1.65°
A ₄	A ₅	0° 0' 0"	93° 9' 21"	44.617	44.550	-2.456	1.350	1.65°
	A ₃	132° 3' 25"	81° 55' 25"	43.824	43.389	6.152	1.350	1.65°
A ₅	A ₁	0° 0' 11"	84° 44' 46"	86.403	86.040	7.912	1.444	1.65°
	A ₄	95° 23' 52"	86° 13' 16"	44.648	44.551	2.943	1.448	1.65°

Shree
24/7/2019

Exp. 9 Mapping By T.S

* Group name :
1. Samya Irzelddeen
2. Alaa Suboh
3. Ghazi Mohammad
4. Ashraf Odeh
5. Wafaa Jamhour

* Date: 31 / 7 / 2019

* Weather: Too sunny with little wind

* Location: In front of Altanmia Building's
stairs

* Instrument :

