



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

APRIL EXAMINATION

BUILDING AND STRUCTURAL SURVEYING N6

7 APRIL 2016

This marking guideline consists of 9 pages.

QUESTION 1

1.1 Temporary adjustment is done during the setting of the theodolite over a station ✓ at the time of taking any observation. ✓ (2)

- 1.2
- Setting up and centering the instrument
 - Levelling the instrument
 - Elimination of parallax
- (3)

1.3

STA.	Circle-left	Circle-right	Mean Angle	Cor.	Adj. Angle
A	168:32:38	348:32:22			
B	250:28:16	70:27:54			
	81:55:38	81:55:32	81:55:35	+ 00:00:06	81:55:41 ✓
B	250:28:16	70:27:54			
C	92:54:44	272:54:10			
	202:26:28	202:26:16	202:26:22	+ 00:00:06	202:26:28 ✓
C	92:54:44	272:54:10			
A	168:32:16	348:32:08			
	75:37:32	75:37:58	75:37:45	+ 00:00:06	75:37:51 ✓
			359:59:42	+ 00:00:18	360:00:00 ✓

$$\Delta Y_{P1-B} = -2\,711,22 - (-1\,831,48)$$

$$= -879,74 \quad \checkmark$$

$$\Delta X_{P1-B} = +2\,876,55 - (+2\,091,09)$$

$$= +785,46 \quad \checkmark$$

$$\text{Direction} = \frac{-879,74}{+785,46} \quad 4^{\text{th}} \text{ quadrant} \quad \checkmark$$

$$\tan \beta = -1,12003157$$

$$\beta = 311:45:34 \quad \checkmark$$

Direction

P1-B	=	311:45:34	
∠ B-P1-C	=	<u>202:26:28</u>	
P1-C	=	154:12:02	→ ✓
∠ C-P1-A	=	<u>75:37:51</u>	
P1-A	=	229:49:53	→ ✓
∠ A-P1-B	=	<u>81:55:41</u>	
P1-B	=	311:45:34	

(10 × 1) (10)
[15]