



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

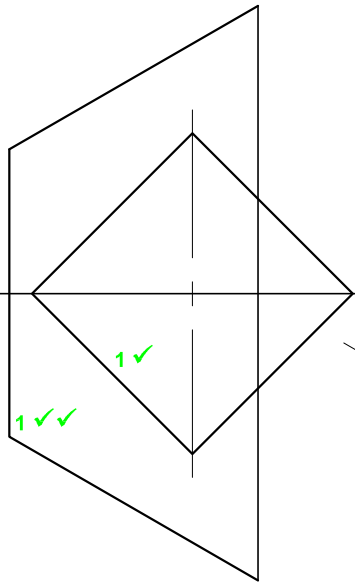
ENGINEERING GRAPHICS AND DESIGN P2

FEBRUARY/MARCH 2011

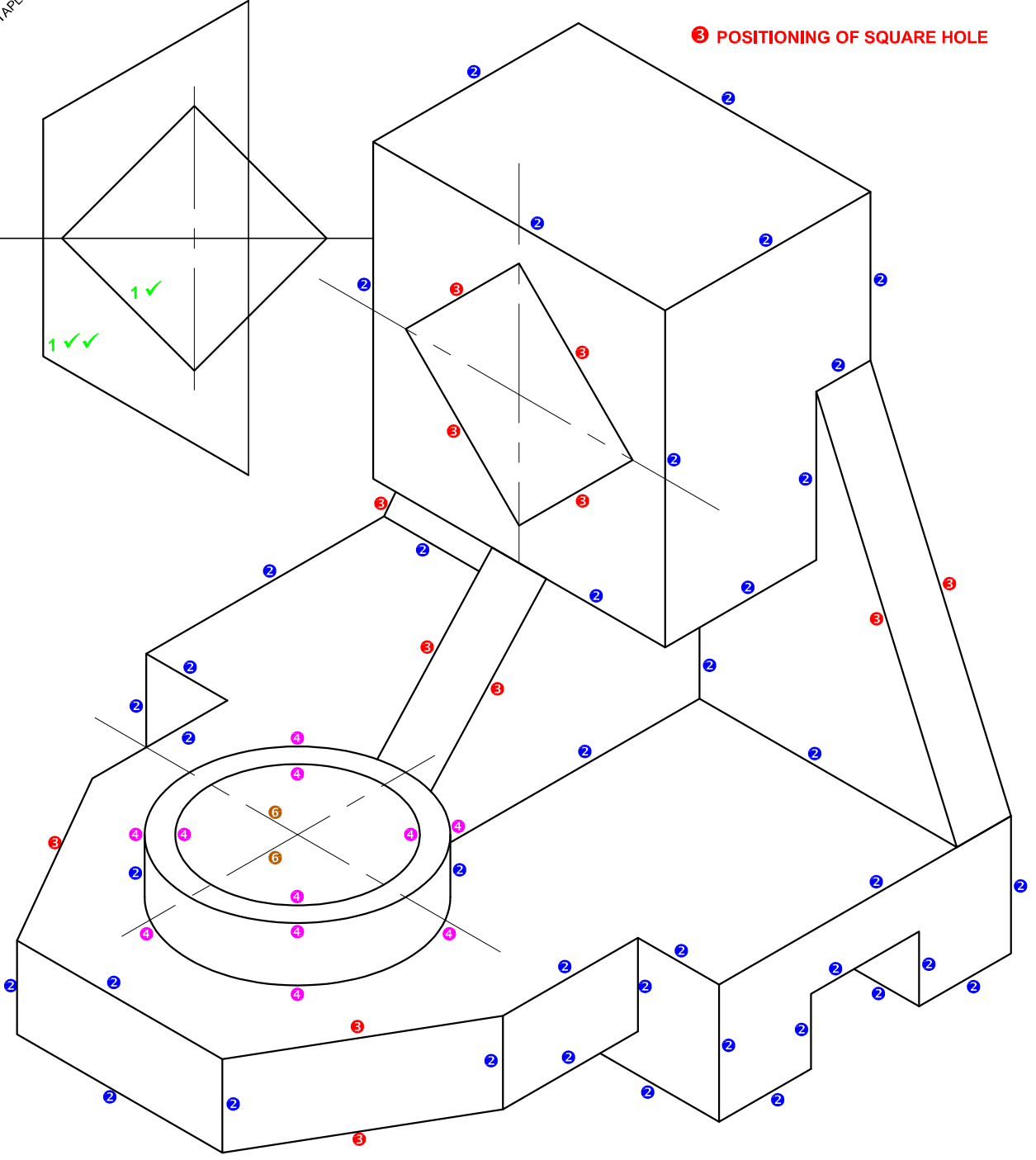
MEMORANDUM

MARKS: 100

This memorandum consists of 5 pages.



3 POSITIONING OF SQUARE HOLE



5 ✓✓ CIRCLE CONSTRUCTION

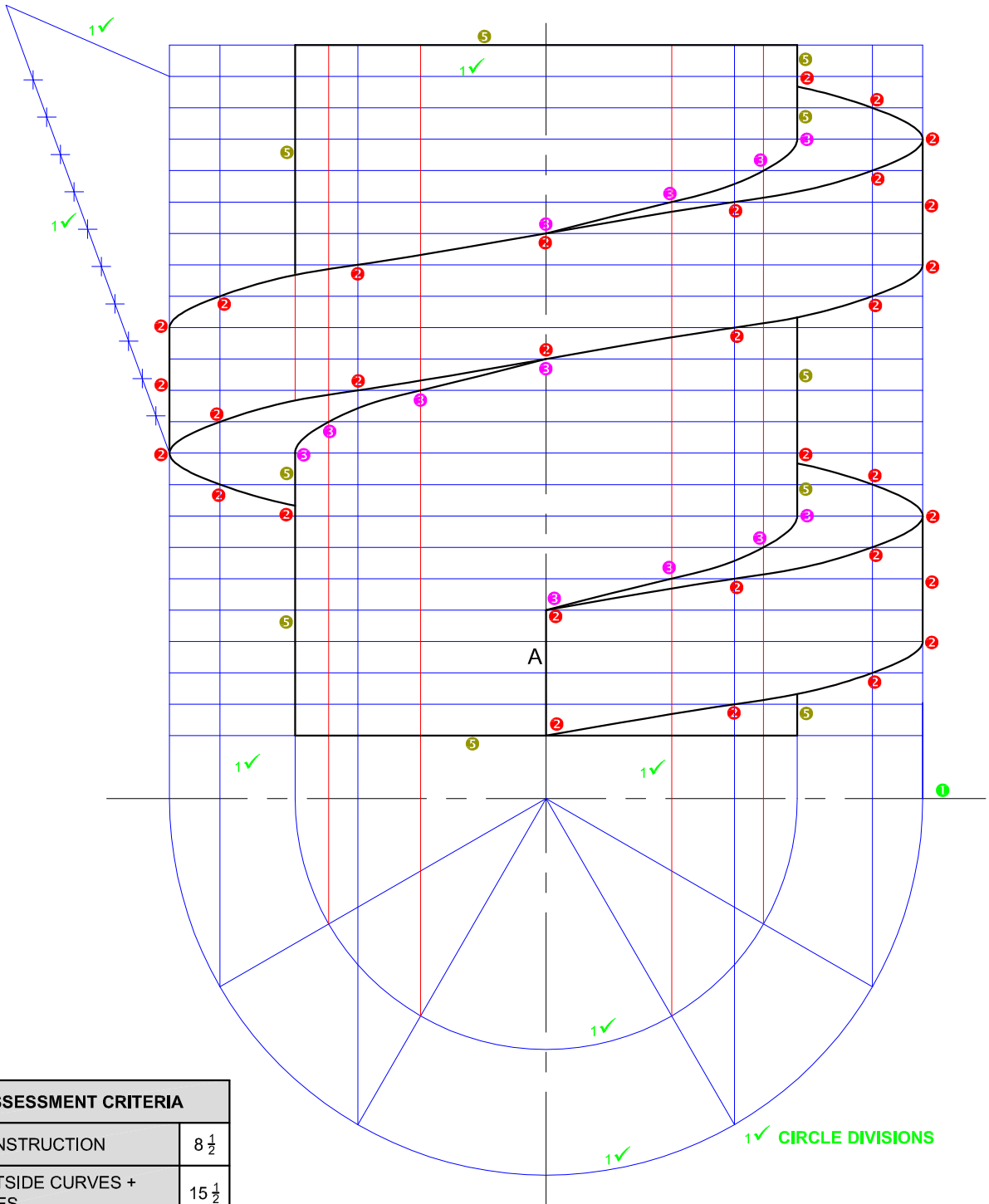
A 1 ✓ FOR CORRECT ORIENTATION FROM A

ASSESSMENT CRITERIA	
1. AUX. VIEW + PLACING	4
2. ISOMETRIC LINES	20
3. NON-ISOMETRIC LINES	6½
4. ISOMETRIC CIRCLES	5½
5. CIRCLE CONSTRUCTION	2
6. CENTRE LINES	1
TOTAL	39

PAPER 2 QUESTION 3
 GRADE 12
 FEBRUARY/MARCH 2011
 MEMORANDUM



4 ✓✓✓✓ FOR THE QUALITY OF ALL THE CURVES



ASSESSMENT CRITERIA	
1. CONSTRUCTION	8 1/2
2. OUTSIDE CURVES + LINES	15 1/2
3. INSIDE CURVES	6
4. QUALITY OF CURVES	4
5. SHAFT	5
TOTAL	39

1✓ CIRCLE DIVISIONS

PAPER 2 QUESTION 2
 GRADE 12
 FEB. - MARCH 2011
 MEMORANDUM



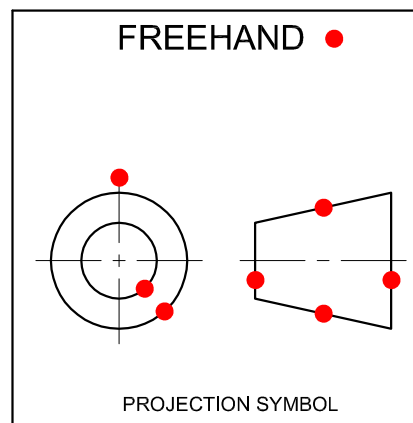
ANSWERS		
1	05 - 11 - 2010	1
2	CRANK_003	1
3	GOVAN MBEKI DRIVE	1
4	STEVEN	1
5	SCALE 1 : 2	1
6	± 0,15	1
7	REMOVED SECTION	1
8	SECTIONAL FRONT VIEW	1
9	SIX	1
10	10 mm	1
11	C: 198 D: 76	2
12	R 3	1
13	COUNTERBORE	1
14	KEYWAY	1
15	TO SECURE THE HANDLE TO THE SPINDLE	1
16	TO SECURE THE CASTLE NUT TO THE SPINDLE OR TO PREVENT THE CASTLE NUT FROM UNWINDING	1
17	PARTIAL SECTION	1
18	SO THAT THE HANDLE AND SPINDLE WILL TURN TOGETHER	1
19		2
20		4

TOTAL: 25

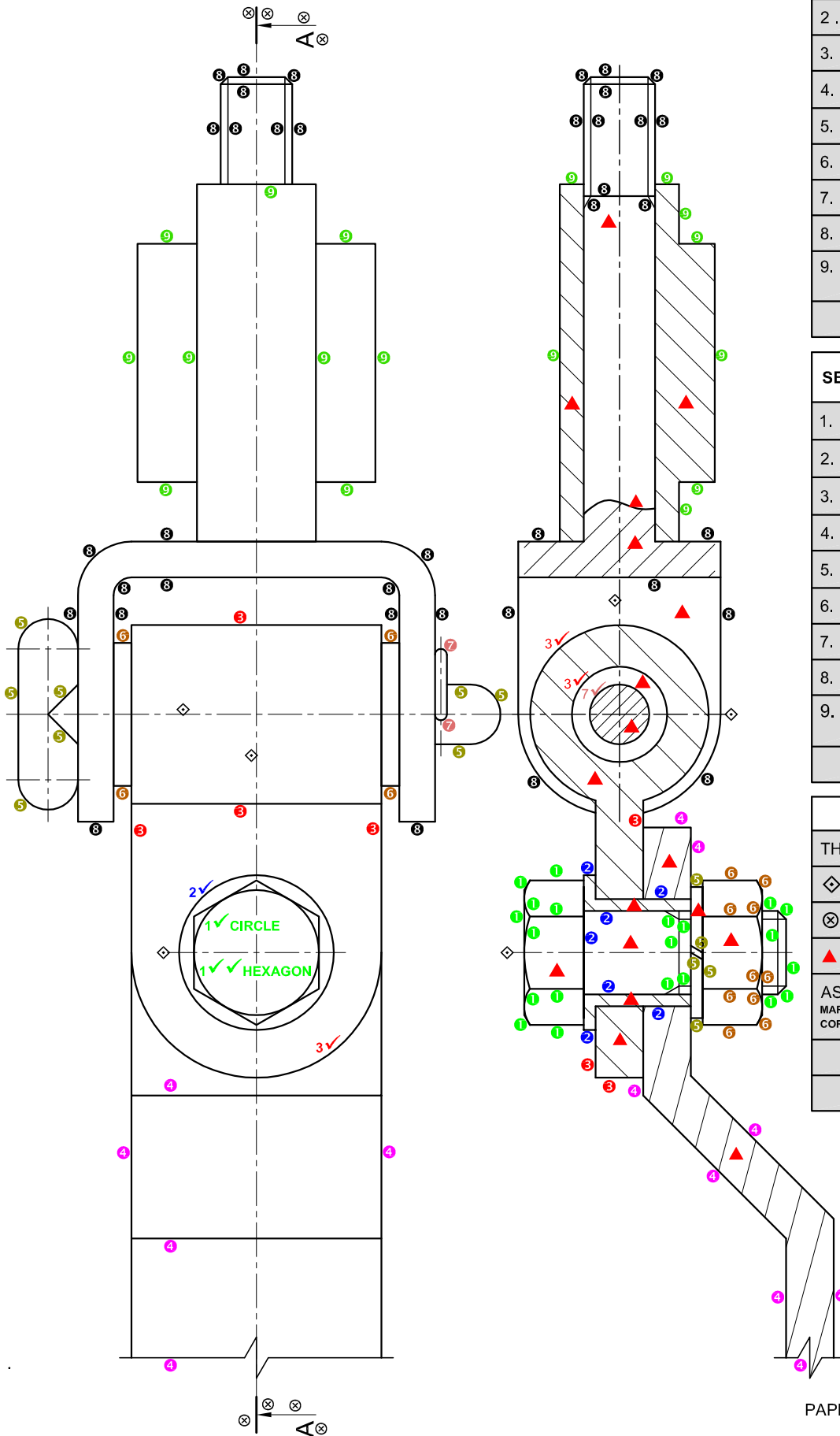
ANSWER 19



ANSWER 20



STAPLE



TOP VIEW	
	POSSIBLE
1. M14 BOLT	3
2. BUSH	1
3. SWIVEL	3
4. FIXED ARM	2½
5. PIN	4
6. BUSH	2
7. LOCKING PIN	1
8. YOKE	10
9. MOUNTING BRACKET	4½
SUBTOTAL	31

SECTIONAL FRONT VIEW	
1. M14 BOLT	10½
2. BUSH	3½
3. SWIVEL	3½
4. FIXED ARM	4
5. SPRING WASHER	2½
6. M14 NUT	5
7. PIN	1
8. YOKE	9
9. MOUNTING BRACKET	4
SUBTOTAL	43

GENERAL	
THIRD ANGLE	2
◇ CENTRE LINES	3
⊗ SECTION A-A	4
▲ HATCHING	9
ASSEMBLY MARK OF EVERY PART CORRECTLY ASSEMBLED	5
SUBTOTAL	23
TOTAL	97

PAPER 2 QUESTION 4
 GRADE 12
 FEBRUARY/MARCH 2011
 MEMORANDUM