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SA EXAM  
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# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P2**

**FEBRUARY/MARCH 2013**

**MEMORANDUM**

**MARKS: 100**

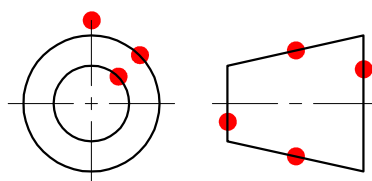
**This memorandum consists of 7 pages.**

ANSWERS		
1	2012-07-19	$\frac{1}{2}$
2	UFF335.dwg	$\frac{1}{2}$
3	INCREASE TOLERANCE	$\frac{1}{2}$
4	CAST IRON	$\frac{1}{2}$
5	2,5 mm	$\frac{1}{2}$
6	6	$\frac{1}{2}$
7	MILLING	1
8	ROUGHNESS FACTOR	1
9	FILLET	1
10	Ø50	1
11	KEYWAY	1
12	CURVE OF INTERPENETRATION	1
13	± 0,3	1
14	30	1
15	2	1
16	262	1
17	TOP VIEW	1
18	FULL SECTIONAL FRONT VIEW / MULTI-PLANE SECTIONAL VIEW	1
19	A. Ø76    B. Ø90    C. Ø30    D. 40    E. 10	5
20	Ø25.25	2
21	13.5 (UPPER) & 12.85 (LOWER)	4
22		4

TOTAL: 30

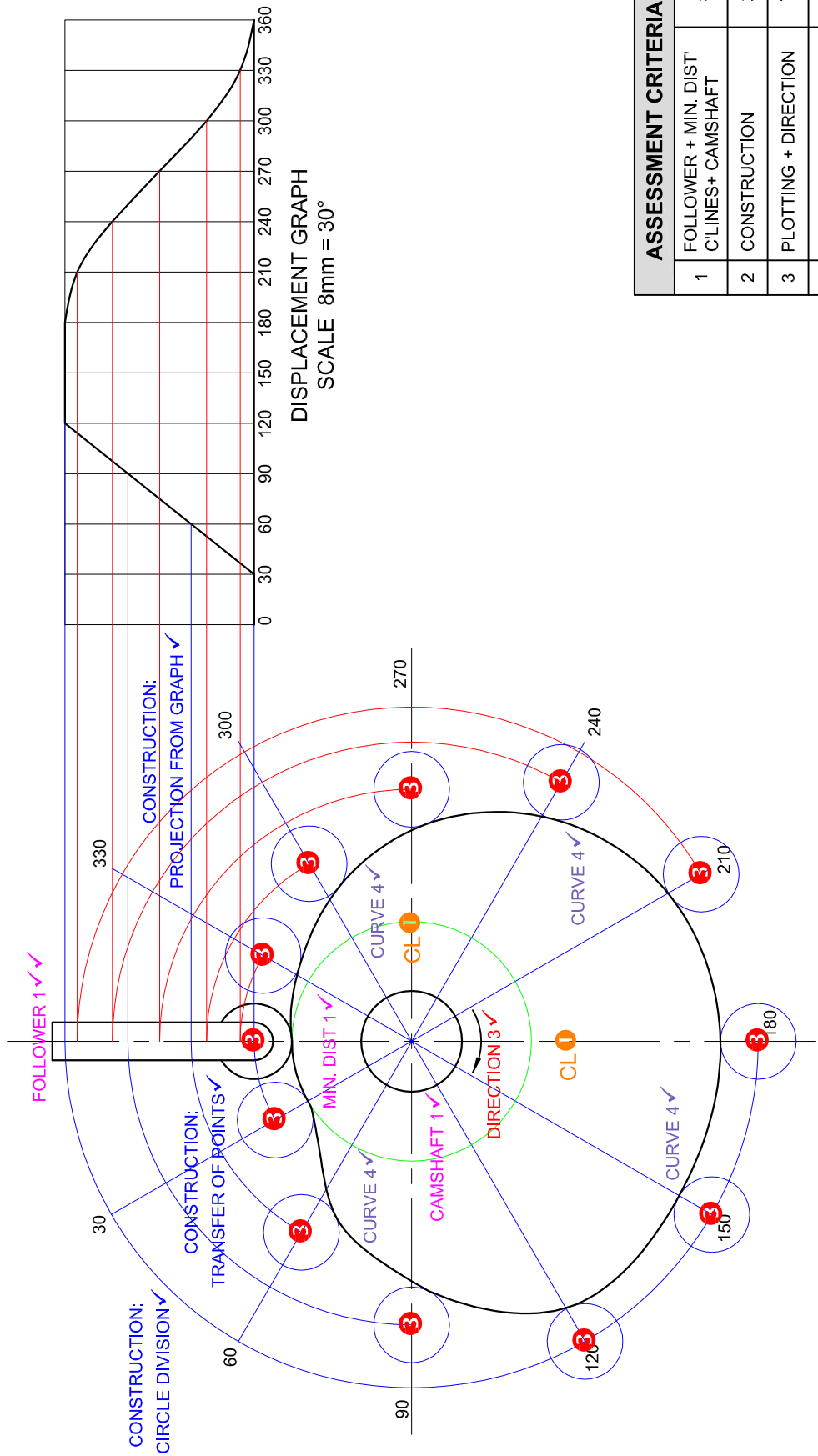
## ANSWER 22

● FREEHAND

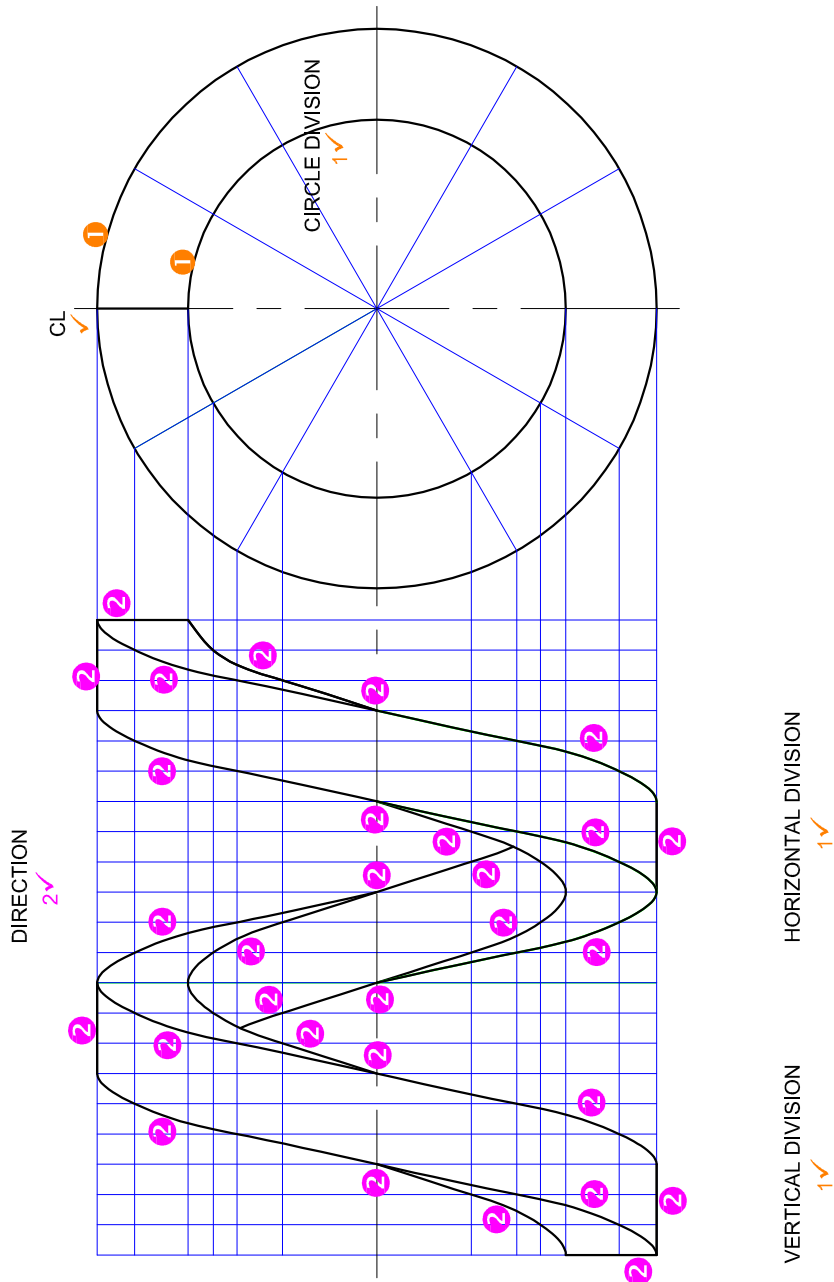


SYMBOL

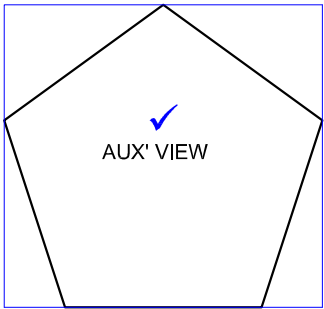
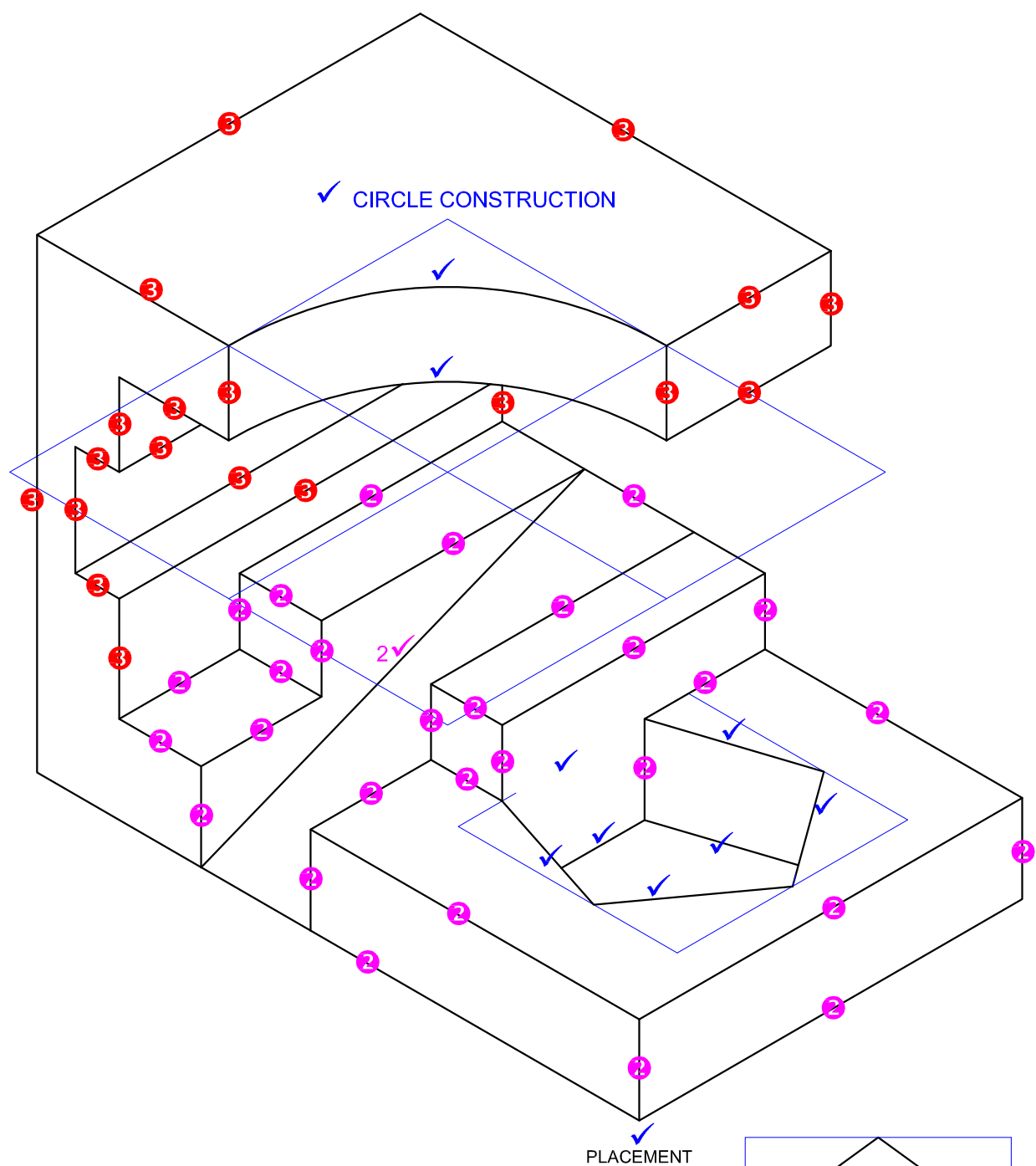
PAPER 2 QUESTION 1  
 GRADE 12  
 FEB. - MAR. 2013  
 MEMORANDUM



ASSESSMENT CRITERIA		
1	FOLLOWER + MIN. DIST' C'LINES+ CAMSHAFT	5
2	CONSTRUCTION	3
3	PLOTTING + DIRECTION	7
4	CURVE	4
SUBTOTAL		19

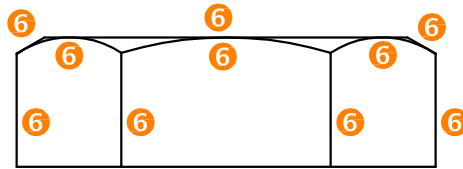


ASSESSMENT CRITERIA		
1	CONSTRUCTION	5
2	POINTS	16
SUBTOTAL		21

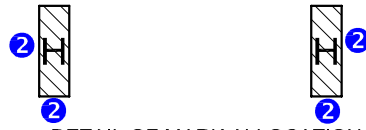
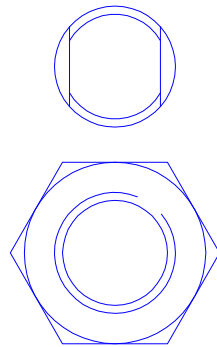


ASSESSMENT CRITERIA		
1	AUX' VIEW + CIRCLE PENTAGON + PLACING	12
2	LOWER PORTION	15½
3	UPPER PORTION	9½
TOTAL		37

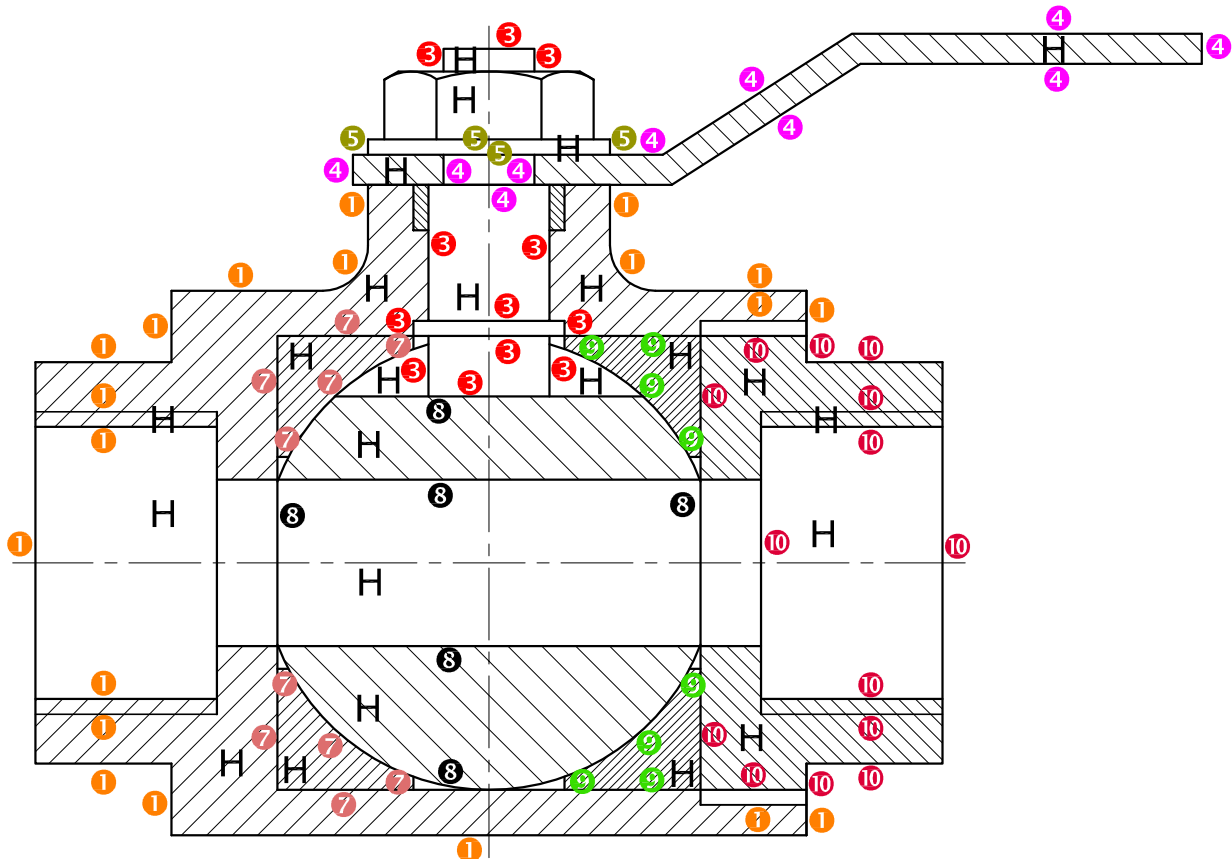
PAPER 2 QUESTION 3  
GRADE 12  
FEB. - MAR. 2013  
MEMORANDUM



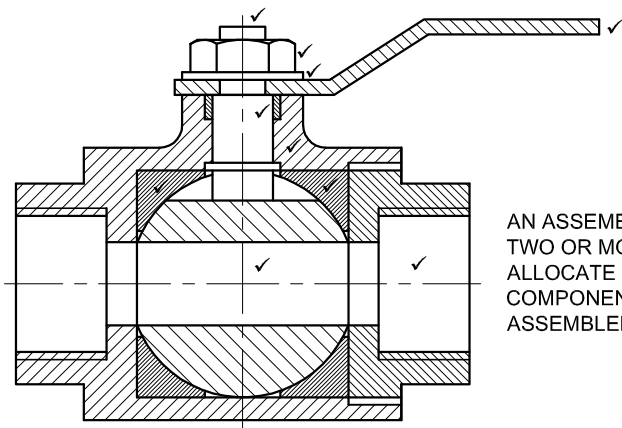
DETAIL OF MARK ALLOCATION FOR M16 NUT

CONSTRUCTION  
NOT SHOWN (-2)DETAIL OF MARK ALLOCATION  
FOR FIBRE SEAL**ASSESSMENT  
CRITERIA****SECTIONAL FRONT  
VIEW**

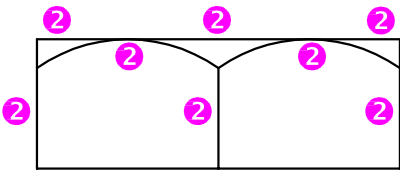
1	VALVE BODY	10
2	SEAL	2
3	SHAFT	6
4	HANDLE	5
5	WASHER	2
6	M16 NUT	5
7	LEFT CUP SEAL	5
8	SPHERE	3
9	RIGHT CUP SEAL	4
10	END CAP	7
H	HATCHING	13
<b>SUBTOTAL</b>		<b>62</b>



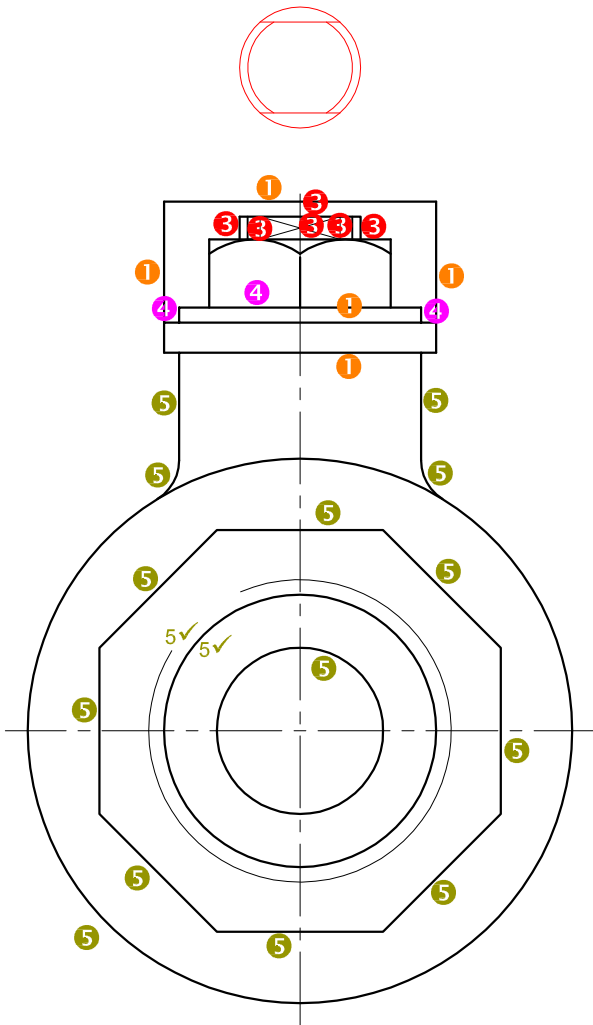
PAPER 2 QUESTION 4  
GRADE 12  
FEB. - MAR. 2013  
MEMORANDUM



AN ASSEMBLY CONSTITUTES TWO OR MORE PARTS SO ALLOCATE 1 MARK FOR EACH COMPONENT CORRECTLY ASSEMBLED (10 PARTS -1=9)



DETAIL OF MARK ALLOCATION FOR M16 NUT



ASSESSMENT CRITERIA		
LEFT VIEW		
1	HANDLE	2½
2	M16 NUT	4
3	SHAFT	3
4	WASHER	1½
5	VALVE BODY	9
SUBTOTAL		20
GENERAL		
1	CENTRE LINES	2
2	ASSEMBLY	9
SUBTOTAL		11