



# basic education

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

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P2**

**NOVEMBER 2010**

**MEMORANDUM**

**MARKS: 100**

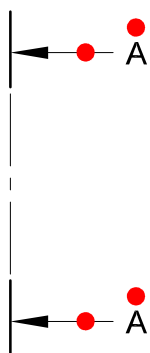
**This memorandum consists of 6 pages.**



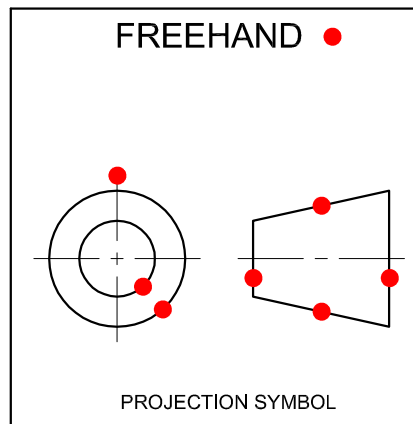
ANSWERS		
1	26/04/2010	1
2	BRASS	1
3	CAD	1
4	ONE	1
5	FOUR	1
6	± 0,25	1
7	16	1
8	THE END IS SQUARE	1
9	FILLET	1
10	40°	1
11	CHAMFER	1
12	Ø6	1
13	R3	1
14	HALF-SECTION	1
15	P: 48    Q: Ø88	2
16	PITCH-CIRCLE DIAMETER	1
17	SIX	1
18		2
19		4
20		6

TOTAL: 30

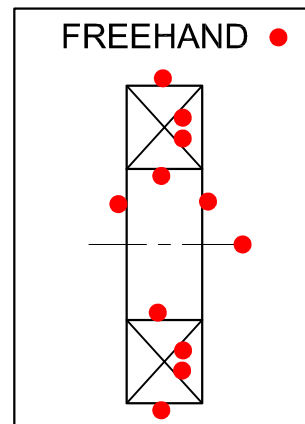
ANSWER 18

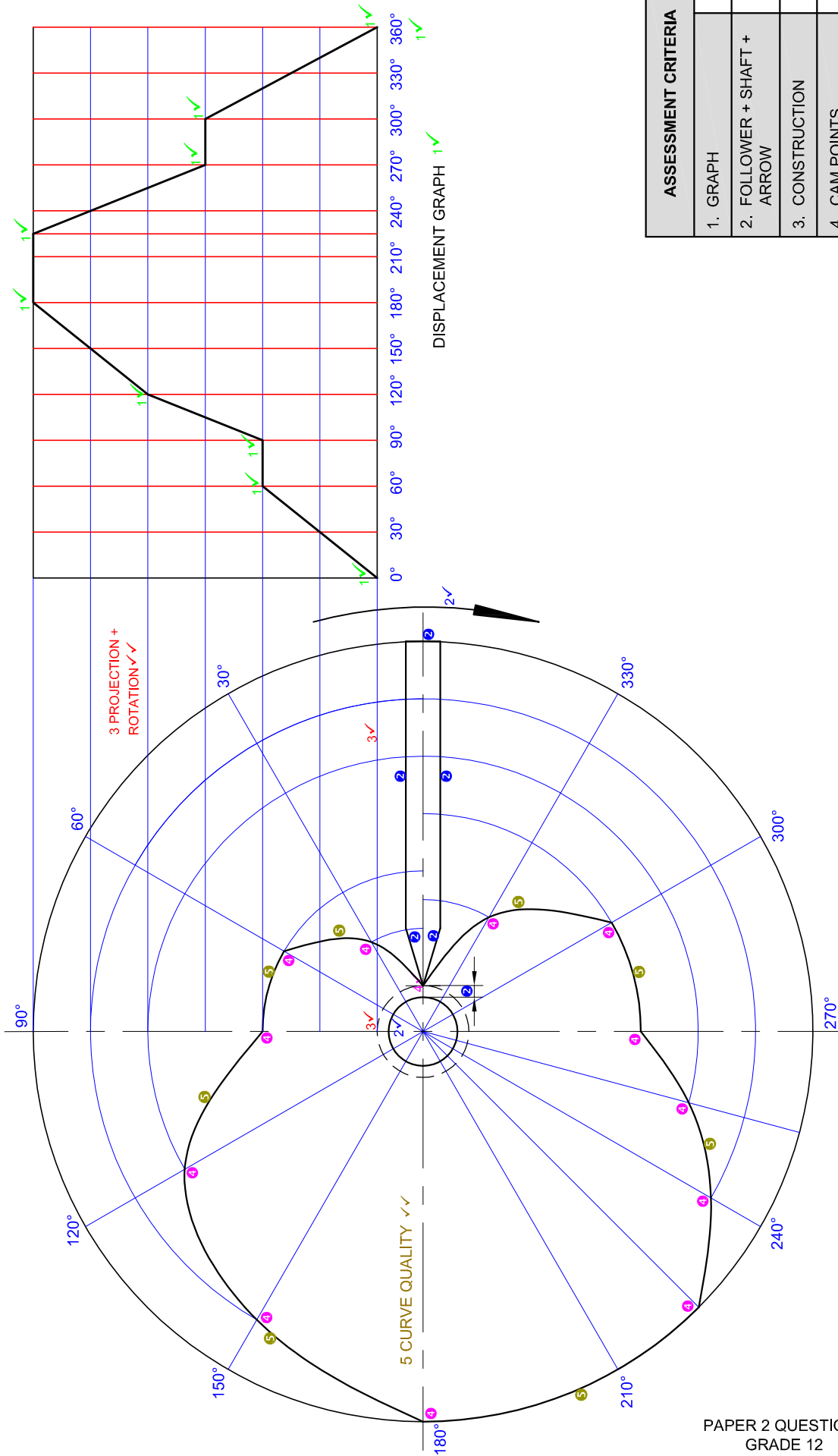


ANSWER 19



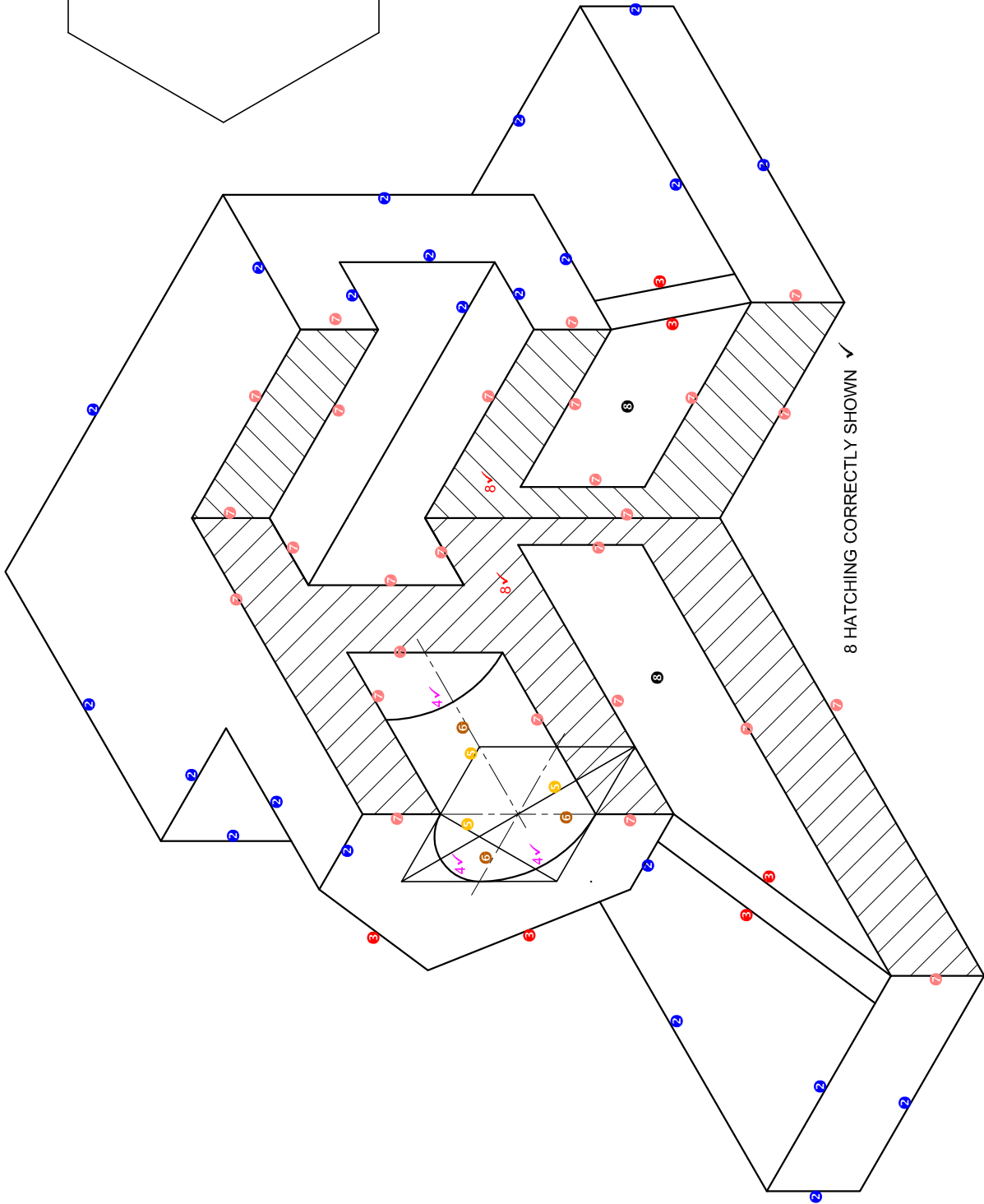
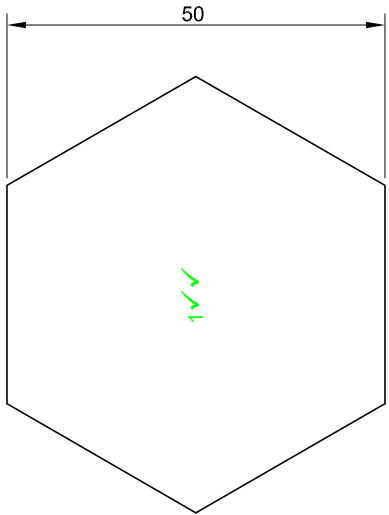
ANSWER 20





ASSESSMENT CRITERIA	
1. GRAPH	11
2. FOLLOWER + SHAFT + ARROW	5
3. CONSTRUCTION	4
4. CAM POINTS	7
5. CURVE + QUALITY	6
<b>TOTAL</b>	<b>33</b>

PAPER 2 QUESTION 2  
 GRADE 12  
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 MEMORANDUM



8 HATCHING CORRECTLY SHOWN ✓

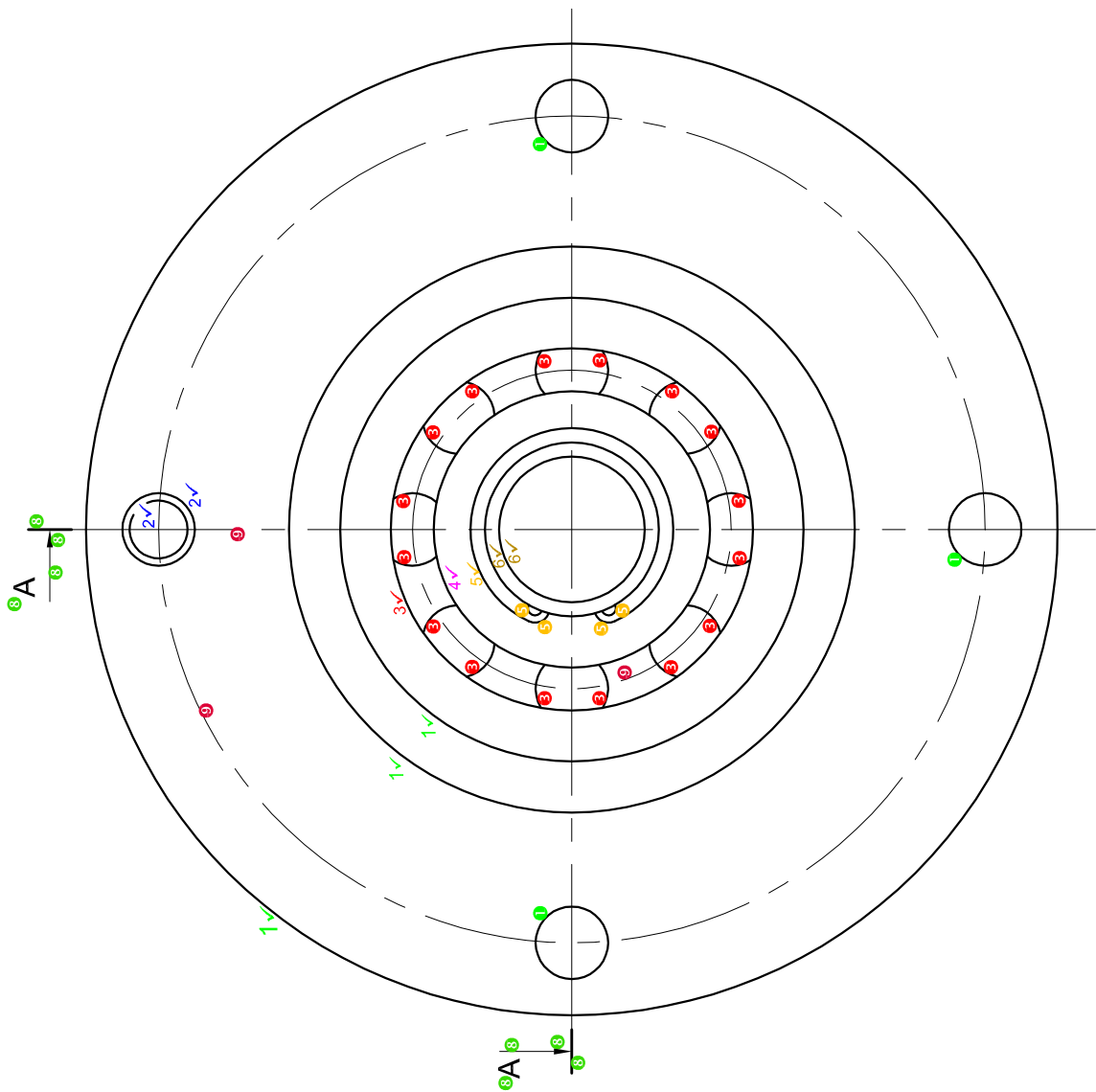
1 CORRECT PLACEMENT ON POINT B ✓

ASSESSMENT CRITERIA	
1. AUX. VIEW + PLACING	3
2. ISOMETRIC LINES	11
3. NON-ISOMETRIC LINES	3
4. ISOMETRIC CIRCLES	3
5. CIRCLE CONSTRUCTION	1½
6. CENTRE LINES	1½
7. SECTIONED SURFACES	13
8. HATCHING	4
<b>TOTAL</b>	<b>40</b>

PAPER 2 QUESTION 3  
 GRADE 12  
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RIGHT VIEW + GENERAL	
1. WHEEL HUB	4½
2. WHEEL STUD	2
3. BEARING	9
4. WASHER	1
5. CIRCLIP	3
6. STUB AXLE	2
7. ASSEMBLY	9
8. SECTION A-A	4
9. CENTRE LINES	4
10. HATCHING (▲)	11½
<b>SUBTOTAL</b>	<b>50</b>
<b>TOTAL</b>	<b>97</b>



PAPER 2 QUESTION 4  
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