higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

# NASIENRIGLYN

## NASIONALE SERTIFIKAAT

## INGENIEURSTEKENE N2

## 19 JULIE 2018

**Hierdie nasienriglyn bestaan uit 9 bladsye.**

Kopiereg voorbehou

## INSTRUKSIES EN INLIGTING

1. Aan ALLE nasiensentrumbestuurders: kopiëring en oordrag van tekeninge van RGO na MS Word kan die akkuraatheid van tekeninge beïnvloed.

2. Dus moet ALLE nasieners ’n volledig voltooide nasienriglyn hê om in die nasienproses te gebruik.

## VRAAG 1 DRAADHEGTERS, SWEISPROSESSE EN TEKENWERK AFKORTINGS

1.1 1.1.1 STUIKLAS
1.1.2 KANTVOEG
1.1.3 T-LAS
1.1.4 HOEKVOEG/HOEKLAS
1.1.5 OORSLAGLAS

(5 × 1 punte) (5)

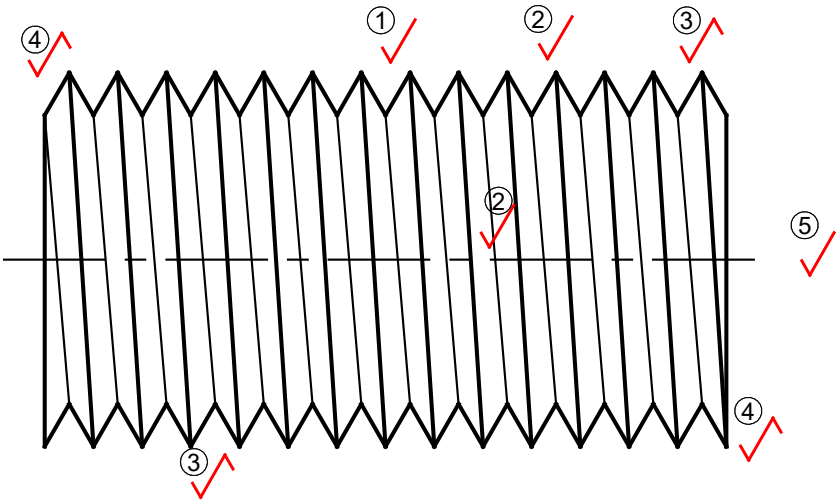
1.2
- SLUITMOER
- GLEUFMOER
- VEERWASTER
- SIMMONDS-MOER
- KROONMOER
- SLUITWASTER

(6 × 1 punte) (6)

1.3 1.3.1 D
1.3.2 0,7D
1.3.3 0,2D
1.3.4 0,8D
1.3.5 0,5D

(5 × 1 punte) (5)
**[16]**

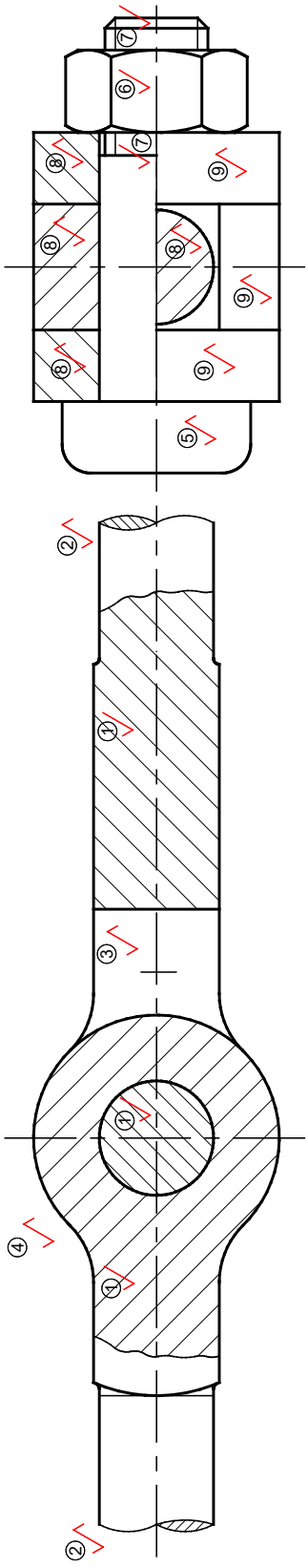
## VRAAG 2: SKROEFDRADE




| MARKING CRITERIA | | | |
|---|---|---|---|
| | DIRECTION | ① | 1 |
| CORRECTNESS | DETAIL OF THREAD (ROOT & CREST) | ② | 2 |
| | THREAD ANGLE 60° | ③ | 1 |
| | START AND END | ④ | 1 |
| | HORIZONTAL POSITION | ⑤ | 1 |
| LINE WORK | | | 2 |
| ACCURACY | | | 1 |
| LAYOUT AND NEATNESS | | | 1 |
| | | TOTAL | 10 |

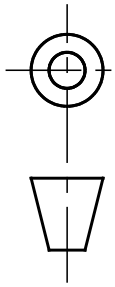
**[10]**

## VRAAG 3: EERSTEHOEKSE ORTOGRAFIESE PROJEKSIE



KNUCKLE JOINT

SCALE 1:2

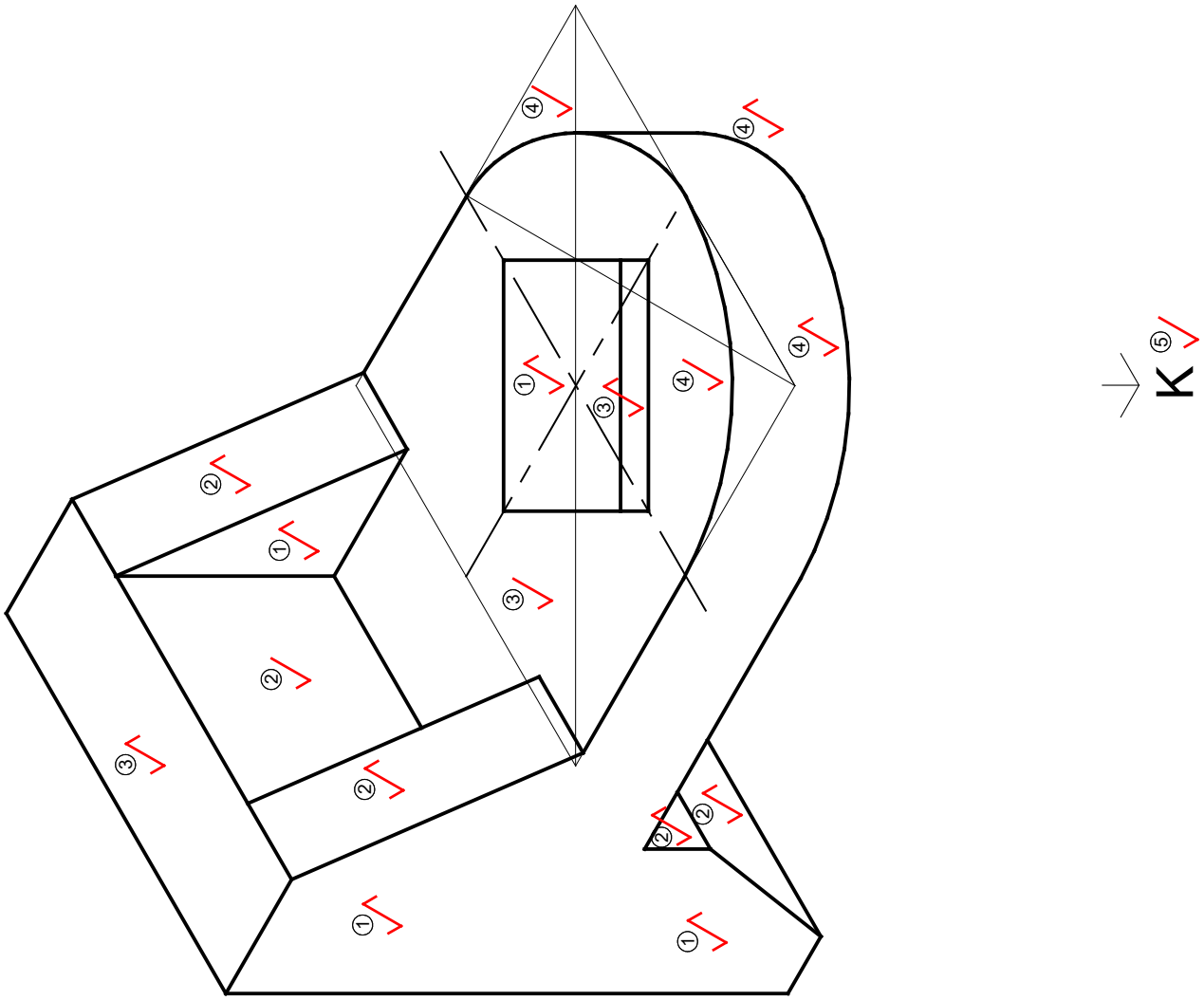


| MARKING CRITERIA | | | | |
|---|---|---|---|---|
| FRONT VIEW | CORRECTNESS | HATCHING | ① | 3 |
| | | "CUT" OF FORKED END AND EYE END | ② | 1 |
| | | PART NOT SECTIONED | ③ | ½ |
| | | PROFILE: FILLETED OUTLINE | ④ | ½ |
| | LINE WORK | | | 2 |
| | ACCURACY | | | 1 |
| LEFT VIEW | CORRECTNESS | BOLT HEAD | ⑤ | ½ |
| | | NUT | ⑥ | 1 |
| | | THREAD BEFORE AND AFTER NUT | ⑦ | 2 |
| | | PARTS HATCHED | ⑧ | 2 |
| | | PARTS NOT SECTIONED | ⑨ | 1½ |
| | LINE WORK | | | 2 |
| | ACCURACY | | | 2 |
| PRINTING OF TITLE AND SCALE | | | | 2 |
| ORTHOGRAPHIC PROJECTION SYMBOL | | | | 1 |
| LAYOUT AND NEATNESS | | | | 1 |
| | | | TOTAL | 23 |

**[23]**

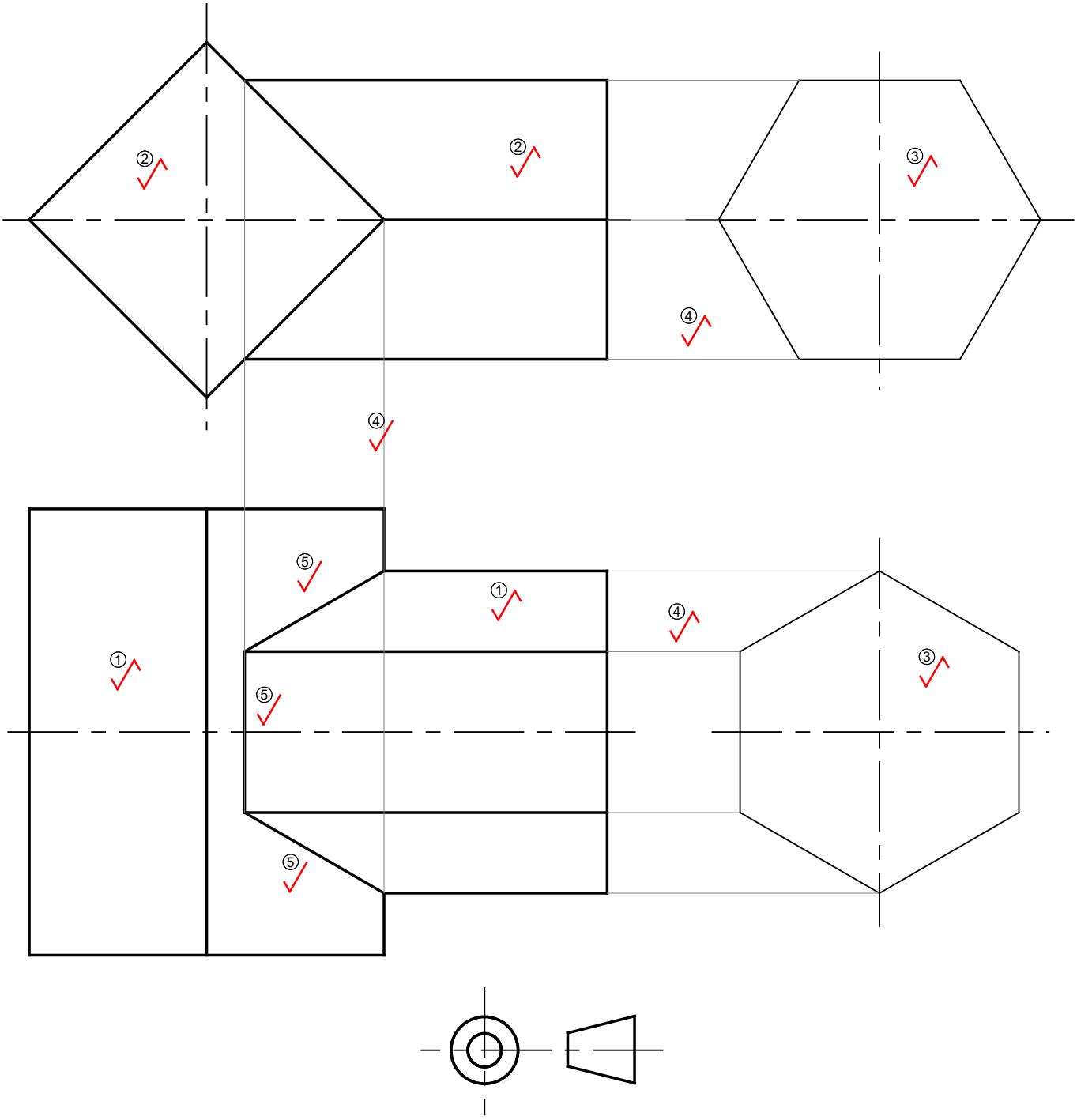
## VRAAG 4: ISOMETRIES

| MARKING CRITERIA | | | |
|---|---|---|---|
| CORRECTNESS | LEFT PLANE | ① | 2 |
| | FRONT PLANE | ② | 3 |
| | TOP PLANE | ③ | 2 |
| | SEMI-CIRCLES | ④ | 3 |
| | | ⑤ | 1 |
| POINT K | | | 2 |
| LINE WORK | | | 1 |
| ACCURACY | | | 1 |
| LAYOUT AND NEATNESS | | | 15 |
| | | TOTAL | |




**[15]**

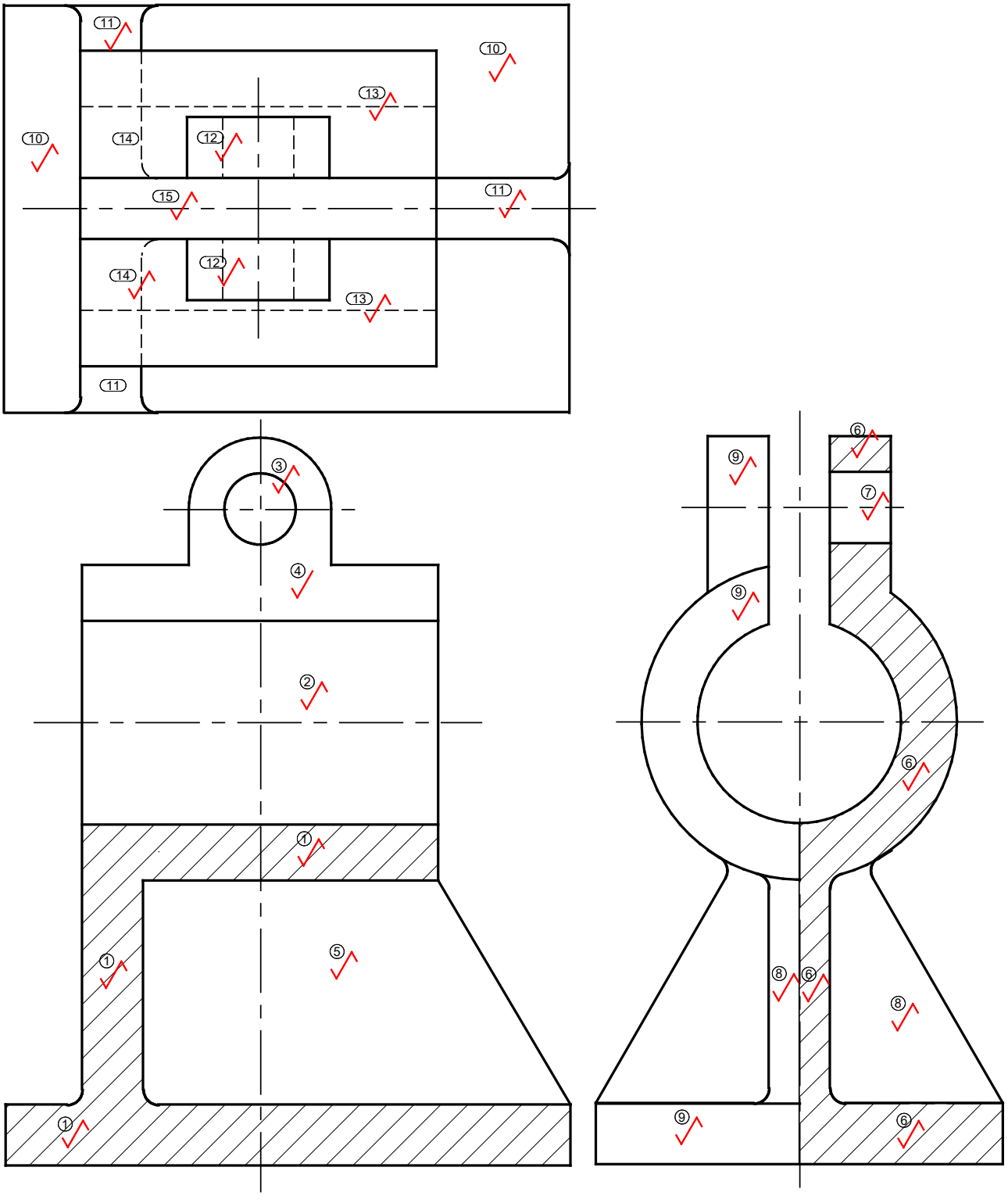
## VRAAG 5: INTERPENETRASIE




| MARKING CRITERIA | | | |
|---|---|---|---|
| CORRECTNESS | FRONT VIEW | ① | 1 |
| | TOP VIEW | ② | 1 |
| | AUXILLIARY VIEWS | ③ | 1 |
| CONSTRUCTION LINES FOR CURVE | | ④ | 2 |
| INTERPENETRATION CURVE | | ⑤ | 3 |
| LINE WORK | | | 2 |
| ACCURACY | | | 1 |
| LAYOUT AND NEATNESS | | | 1 |
| TOTAL | | | 12 |

**[12]**

## VRAAG 6 DERDEHOEKSE ORTOGRAFIESE PROJEKSIE EN MASJIENSIMBOLE



| | MARKING CRITERIA | | | |
|---|---|---|---|---|
| FRONT VIEW | CORRECTNESS | HATCHING | ① | 1½ |
| | | Ø40 HOLE | ② | ½ |
| | | Ø14 HOLE | ③ | ½ |
| | | AREA NOT SECTIONED | ④ | 1 |
| | | WEB | ⑤ | ½ |
| | LINE WORK | | | 1 |
| | ACCURACY | | | 1 |
| RIGHT VIEW | CORRECTNESS | HATCHING | ⑥ | 2 |
| | | Ø14 HOLE | ⑦ | ½ |
| | | WEB | ⑧ | 1 |
| | | AREA NOT SECTIONED | ⑨ | 1½ |
| | LINE WORK | | | 1 |
| | ACCURACY | | | 1 |
| TOP VIEW | CORRECTNESS | BASE | ⑩ | 1 |
| | | WEBS | ⑪ | 1 |
| | | Ø14 HIDDEN DETAIL & PROFILE | ⑫ | 1 |
| | | Ø40 HIDDEN DETAIL & PROFILE | ⑬ | 1 |
| | | HIDDEN DETAIL WEB (Top & bottom) | ⑭ | ½ |
| | | GAP | ⑮ | ½ |
| | LINE WORK | | | 1 |
| | ACCURACY | | | 1 |
| PRINTING OF TITLE AND SCALE CENTRALLY BENEATH LAYOUT | | | | 2 |
| ORTHOGRAPHIC PROJECTION SYMBOL | | | | 1 |
| LAYOUT AND NEATNESS | | | | 1 |
| | | | TOTAL | 24 |

**[24]**

**TOTAAL: 100**

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