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SA EXAM  
PAPERS



# basic education

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

## SENIORSERTIFIKAAT-EKSAMEN

**INGENIEURSGRAFIKA EN -ONTWERP V2**

**2018**

**NASIENRIGLYNE**

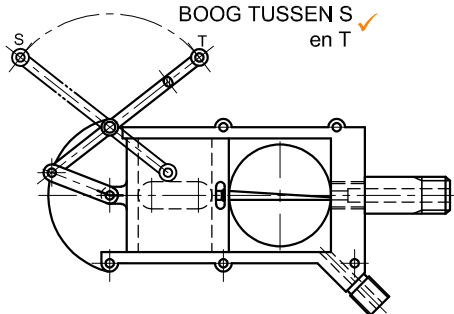
**PUNTE: 200**

**Hierdie nasienriglyne bestaan uit 7 bladsye.**

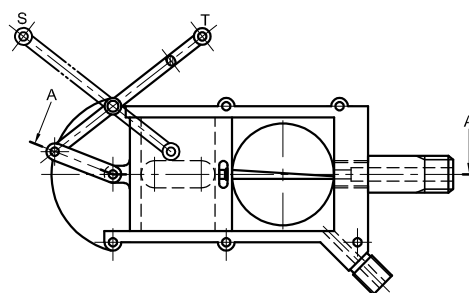
| ANTWOORDE |                                |   |    |
|-----------|--------------------------------|---|----|
| 1         | VISCOUNTSTRAAT 1               |   | 1  |
| 2         | BR2018                         |   | 1  |
| 3         | ROLI                           |   | 1  |
| 4         | ROT/'CAD'                      |   | 1  |
| 5         | R 2                            |   | 1  |
| 6         | GEELKOPER                      |   | 1  |
| 7         | 24                             |   | 1  |
| 8         | ROND / SIRKEL                  |   | 1  |
| 9         | GEWENTELDE SNIT                |   | 1  |
| 10        | DEURSNEE-BOAANSIG              |   | 1  |
| 11        | 8                              |   | 1  |
| 12        | Sien hieronder                 |   | 2  |
| 13        | C: 26      D: Ø36      E: 23   |   | 3  |
| 14        | LENGTEDEURSNIT / AS / PEN      |   | 1  |
| 15        | SKUIF, E-KLEM, VERSNELLERNAALD |   | 3  |
| 16        | RIGTING VAN MASJINERING        | d | 1  |
|           | TOELAATBARE MASJINERING        | e | 1  |
|           | PRODUKSIEMETODE                | b | 1  |
|           | GROFHEIDSGRAAD                 | a | 1  |
| 17        | Sien hieronder                 |   | 3  |
| 18        |                                |   | 3  |
| TOTAAL    |                                |   | 30 |

ANTWOORD 12

LYNTIPE ✓  
BOOG TUSSEN S en T ✓



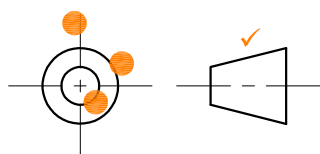
ANTWOORD 17: SNIT A-A

**SNIT A-A PUNTETOEKENNING**

- LINKERPYL PLASING 1
- REGTERPYL PLASING 1
- LOODREG MET SL 1
- TOTAAL** 3

ANTWOORD 18: PROJEKSIESIMBOOL

VRYPHAND ●



VRAESTEL 2 VRAAG 1  
GRAAD 12  
SSE 2018  
NASIENRIGLYNE

- 1

KONSTRUKSIE VAN EENVOUDIGE HARMONIESE BEWEGING

1

HALFSIRKEL

1

SIRKELVERDELING

1

VERTIKALE PROJEKSIE

1

EKSTRA 15° VERDELINGSE

1

HORISONTALE PROJEKSIE

2 1 1 1 1 1 1 2 1 2
- 1

KONSTRUKSIE VAN GRAFIEK

1

LENGTE (126) ✓

1

LYNVERDELING

1 1 2
- 1

KONSTRUKSIE VAN EENVORMIGE VERSNELLING + VERTRAGING

1

HORISONTALE VERDELING

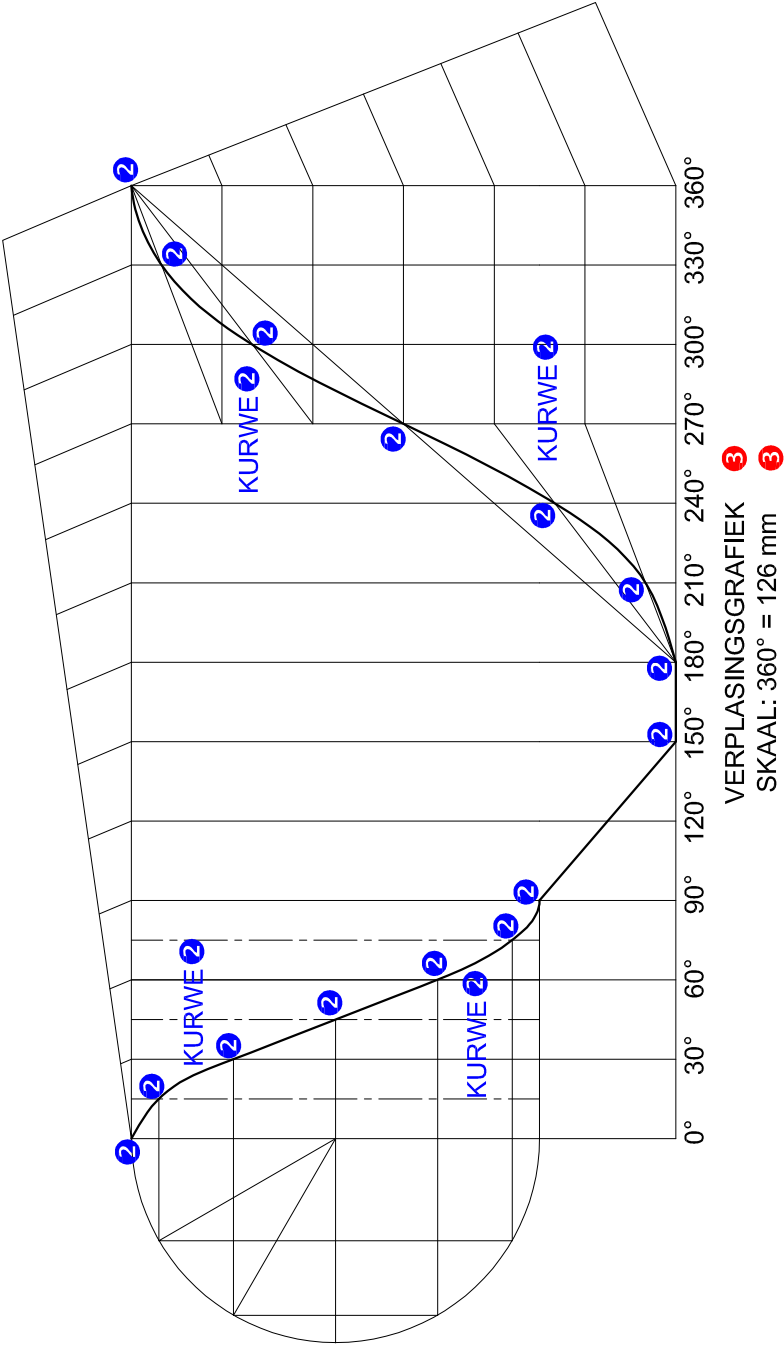
1

-180° - 270° KONSTRUKSIE

1

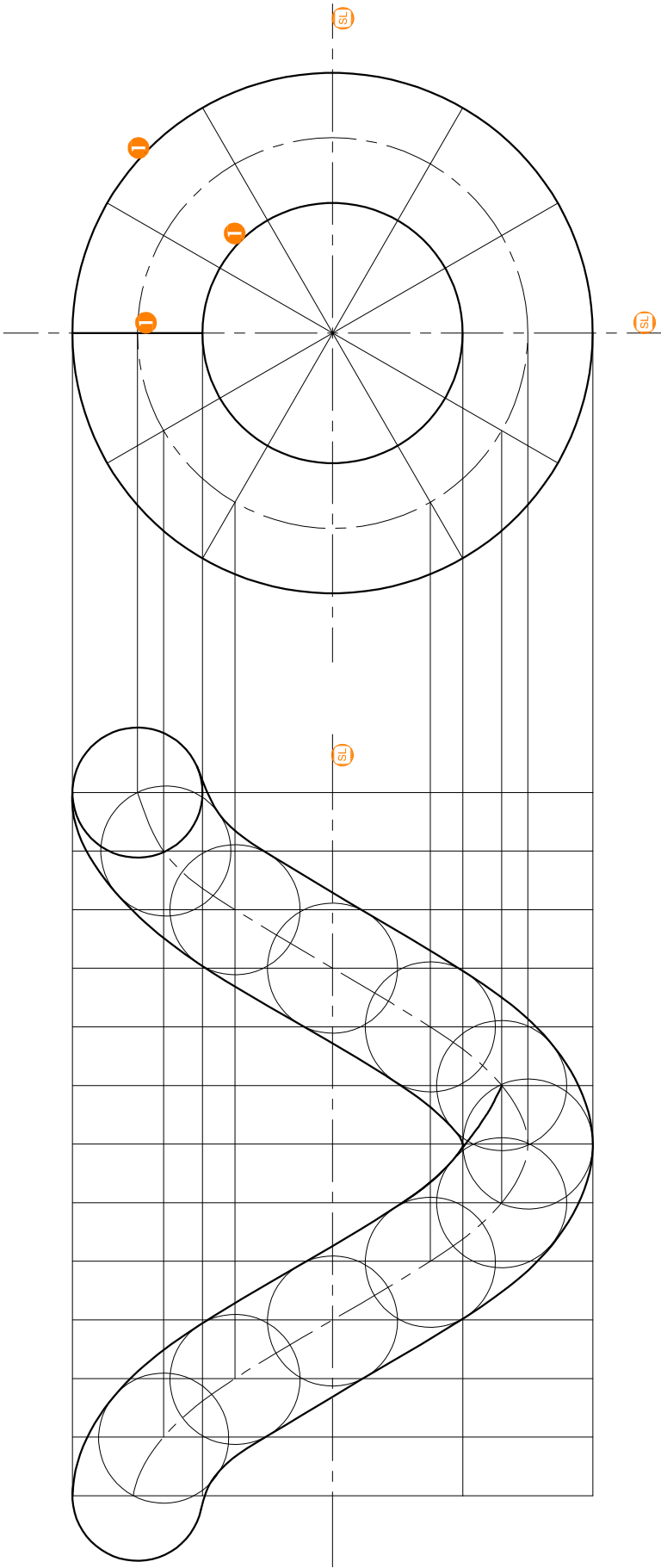
-270° - 360° KONSTRUKSIE

1 1 1 3



VRAESTEL 2 VRAAG 2.1  
GRAAD 12  
SSE 2018  
NASIENRIGLYNE

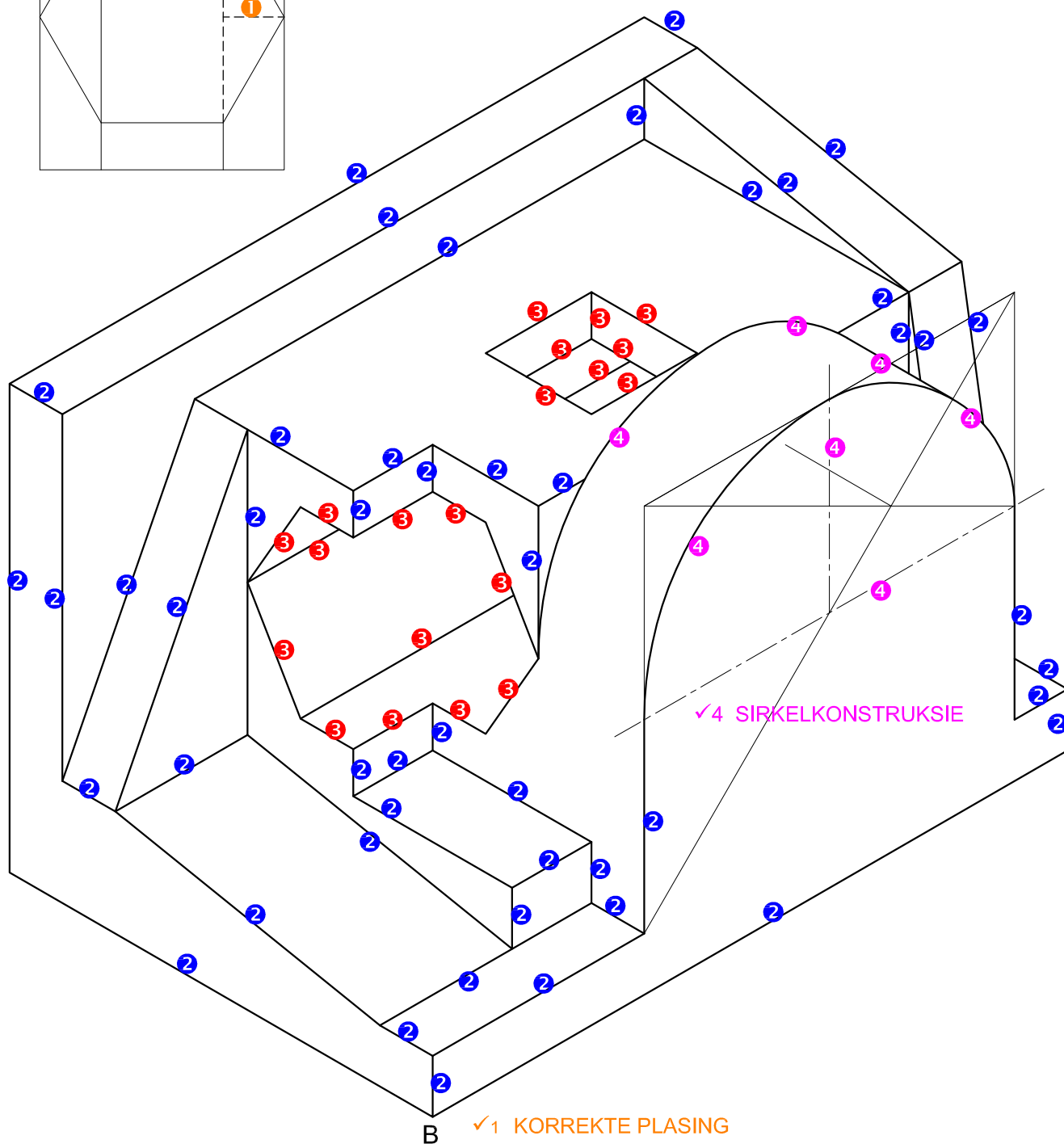
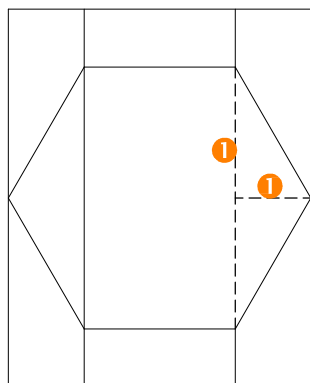
| ASSESSERINGSKRITERIA |               |       |
|----------------------|---------------|-------|
| 1                    | KONSTRUKSIES  | 7 1/2 |
| 2                    | PUNTE + KURWE | 9 1/2 |
| 3                    | BYSKRIFTE     | 1     |
| SUBTOTAAL 2.1        |               | 18    |



|   |             |                        |   |   |            |                                                  |                 |
|---|-------------|------------------------|---|---|------------|--------------------------------------------------|-----------------|
| 2 | KONSTRUKSIE | - PROFIELSENTER        | 1 | 3 | VOORAANSIG | - KORREK GEPLAASDE SIRKELS (13 x $\frac{1}{2}$ ) | 6 $\frac{1}{2}$ |
|   |             | - SIRKELINDELING       | 1 |   |            | - RIGTINGAANDUIDING                              | 2               |
|   |             | - STEEK                | 1 |   |            | - KURWES (4 x $\frac{1}{2}$ )                    | 2               |
|   |             | - LYNVERDELING         | 1 |   |            | - BEGIN + EINDE                                  | 1 $\frac{1}{2}$ |
|   |             | - VERTIKALE PROJEKSIE  | 1 |   |            |                                                  | 12              |
|   |             | - HORIZONTAL PROJEKSIE | 1 |   |            |                                                  |                 |
|   |             |                        | 6 |   |            |                                                  |                 |

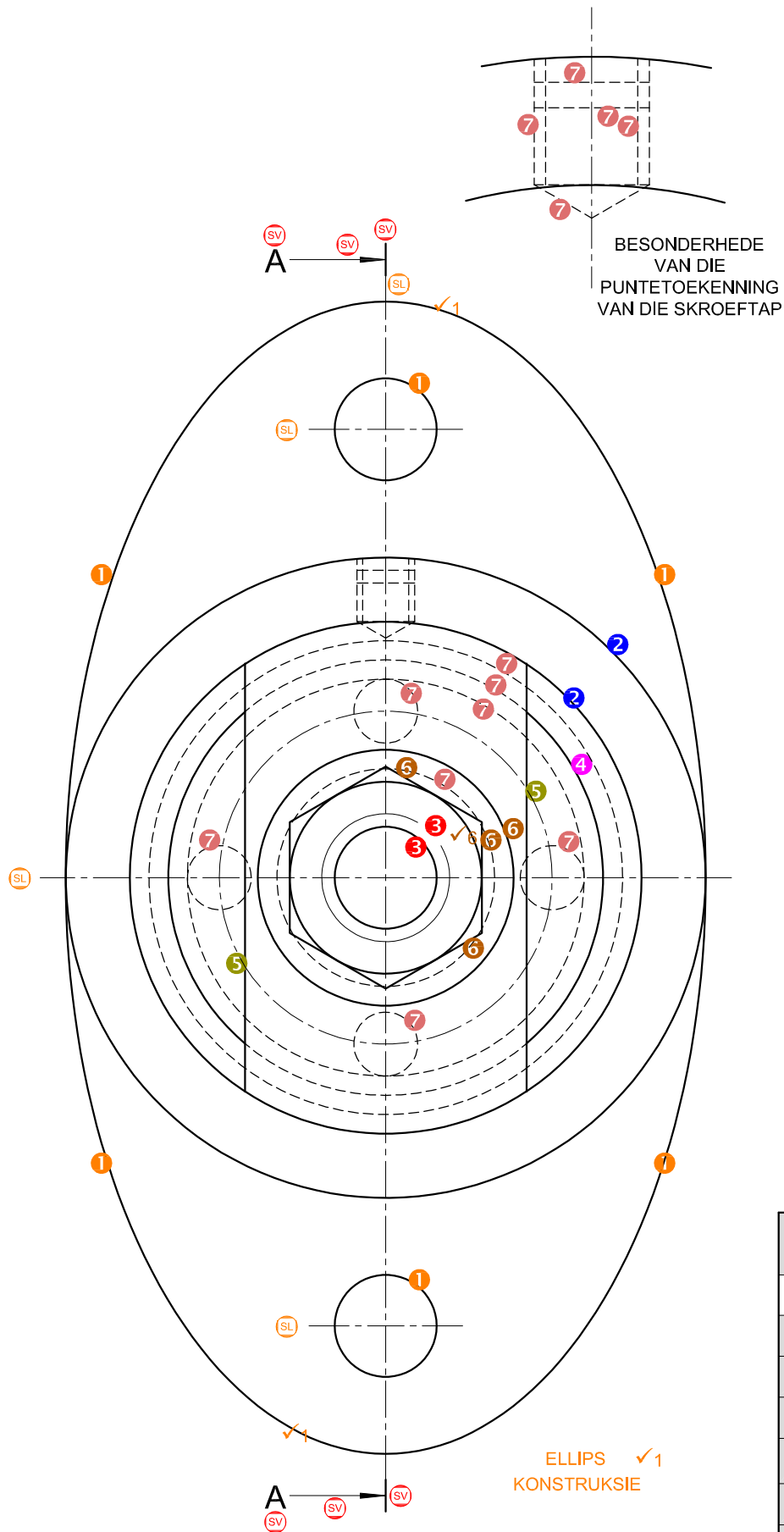
VRAESTEL 2 VRAAG 2.2  
GRAAD 12  
SSE 2018  
NASIENRIGLYNE

| ASSESSERINGSKRITERIA |                    |    |  |
|----------------------|--------------------|----|--|
| 1                    | GEGEE + SENTERLYNE | 3  |  |
| 2                    | KONSTRUKSIES       | 6  |  |
| 3                    | VOORAANSIG         | 12 |  |
| 2.2 SUBTOTAAL        |                    | 21 |  |



VRAESTEL 2 VRAAG 3  
 GRAAD 12  
 SSE 2018  
 NASIENRIGLYNE

| ASSESSMENT CRITERIA |                                    |                  |
|---------------------|------------------------------------|------------------|
| 1                   | PLASING + HULPAANSIG               | 2                |
| 2                   | ISOMETRIESE + NIE-ISOMETRIESE LYNE | 24 $\frac{1}{2}$ |
| 3                   | SESHOEK + VIERKANT                 | 10               |
| 4                   | SIRKEL + SIRKEL-KONSTRUKSIE + SL   | 4 $\frac{1}{2}$  |
| <b>TOTAAL</b>       |                                    | <b>41</b>        |

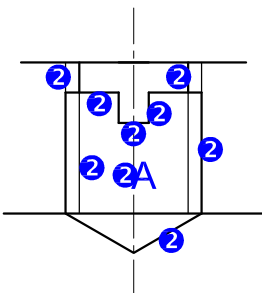


VRAESTEL 2 VRAAG 4 RA  
GRAAD 12  
SSE 2018  
NASIENRIGLYNE

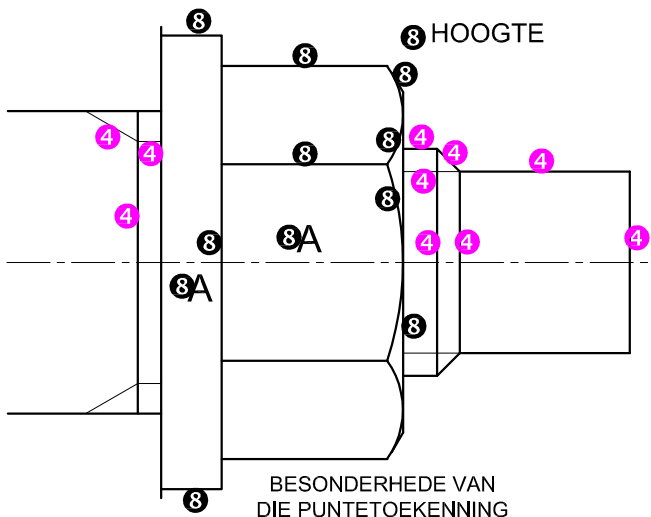
### ASSESSERINGSKRITERIA

#### REGTERAANSIG

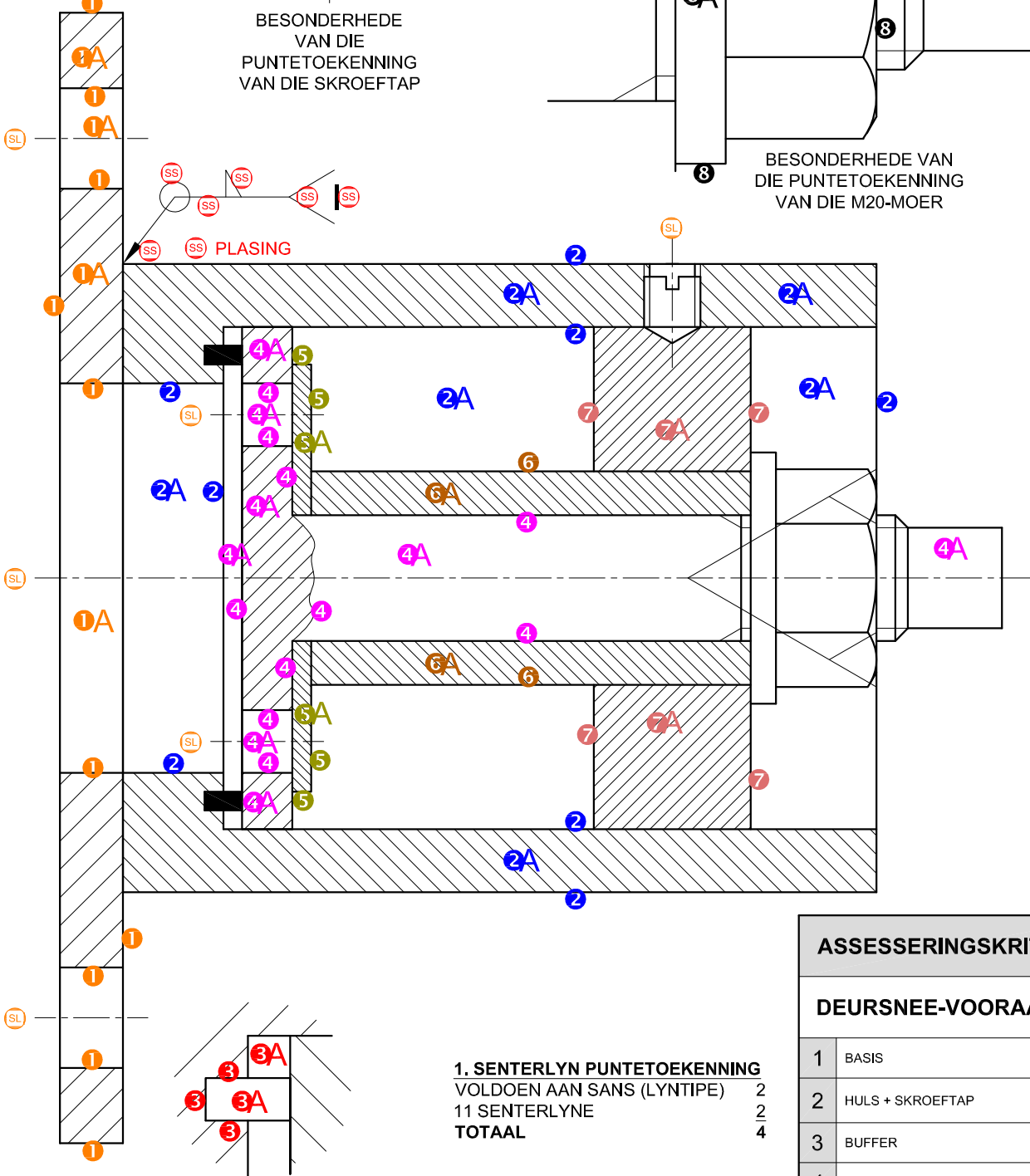
|                  |                          |                |
|------------------|--------------------------|----------------|
| 1                | BASIS                    | 6              |
| 2                | HULS                     | 1              |
| 3                | PLUNJER                  | 1              |
| 4                | SEËL                     | $1\frac{1}{2}$ |
| 5                | GIDS                     | 1              |
| 6                | MOER + WASTER            | 3              |
| 7                | VERBORGE<br>BESONDERHEDE | $6\frac{1}{2}$ |
| <b>SUBTOTAAL</b> |                          | <b>19</b>      |



BESONDERHEDE  
VAN DIE  
PUNTTOEKENNING  
VAN DIE SKROEFTAP



BESONDERHEDE VAN  
DIE PUNTTOEKENNING  
VAN DIE M20-MOER



BESONDERHEDE VAN  
DIE PUNTTOEKENNING  
VIR DIE BUFFER  
 $2\frac{1}{2} \times 2 = 5$

**1. SENTERLYN PUNTTOEKENNING**  
 VOLDOEN AAN SANS (LYNTIPE) 2  
 11 SENTERLYNE 2  
**TOTAAL 4**

**2. SAMESTELLING PUNTTOEKENNING**  
 1 PUNT VIR ELKE KOMPONENT WAT KORREK SAAMGESTEL IS  
 (10 KOMPONENTE -1) = 9

VRAESTEL 2 VRAAG 4 DVA  
 GRAAD 12  
 SSE 2018  
 NASIENRIGLYNE

**ASSESSERINGSKRITERIA**

**DEURSNEE-VOORAANSIG**

|                  |                  |                                    |
|------------------|------------------|------------------------------------|
| 1                | BASIS            | 7                                  |
| 2                | HULS + SKROEFTAP | 11 $\frac{1}{2}$                   |
| 3                | BUFFER           | 5                                  |
| 4                | PLUNJER          | 14                                 |
| 5                | SEËL             | 3                                  |
| 6                | BUS              | 2                                  |
| 7                | GIDS             | 3                                  |
| 6                | MOER + WASTER    | 6                                  |
| <b>SUBTOTAAL</b> |                  | <b>51 <math>\frac{1}{2}</math></b> |