

Gr 11 September 2015  
Memorandum

1.1  $\frac{85}{100} \times 220\,000 = R187\,000$

187000 ✓

$A = 187\,000(1 - 0,12 \times 3) \checkmark$   
 $= R119\,680 \checkmark$

(3)

Korrekte subst. rechte  
 Form  
 antw ✓

1.2  $115\,000 = 187\,000(1 - i)^7 \checkmark$   
 $1 - i = \sqrt[7]{\frac{115\,000}{187\,000}} \checkmark$

A en PV ✓  
 $n = 7$  in rechte formule ✓  
 ✓ ✓

$i = 6,71\% \checkmark$

(4)

antw ✓

[7]

2.1  $1 + i_{\text{eff}} = (1 + \frac{i_n}{m})^m$   
 $1 + i_{\text{eff}} = (1 + \frac{0,12}{4})^4 \checkmark$

$\frac{0,12}{4} \checkmark$   $n = 4 \checkmark$

$i_{\text{eff}} = 12,55\% \checkmark$

(3)

antw ✓

2.2  $A = 50\,000(1 + \frac{0,12}{4})^8 (1 + \frac{0,08}{12})^{\frac{96}{12}} \checkmark$   
 $- 20\,000(1 + \frac{0,08}{12})^{\frac{48}{12}} \checkmark$

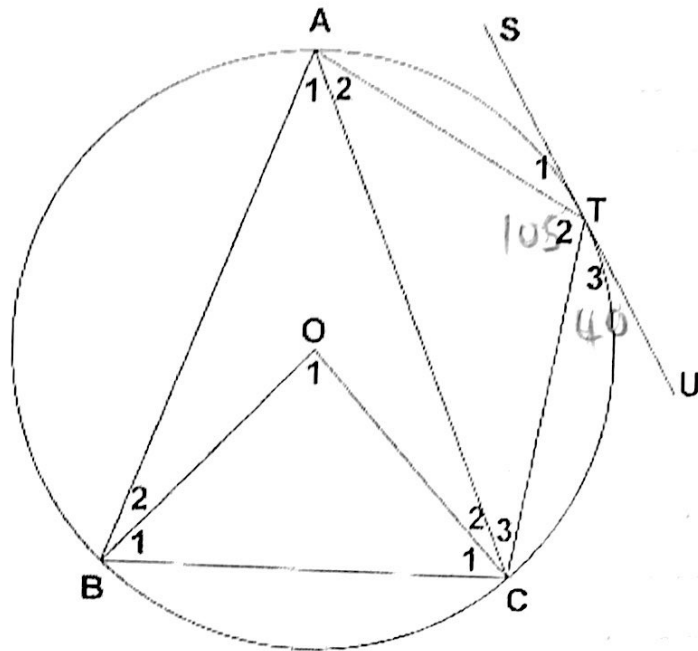
$\frac{0,12}{4} \checkmark$   $8 \checkmark$   
 $\frac{0,08}{12} \checkmark$   $\frac{96}{12} \checkmark$   
 $-20\,000$   $\frac{0,08}{12} \checkmark$   
 $48 \checkmark$

$= R74683,49 \checkmark \checkmark$   
 $R92352,09$

(9)

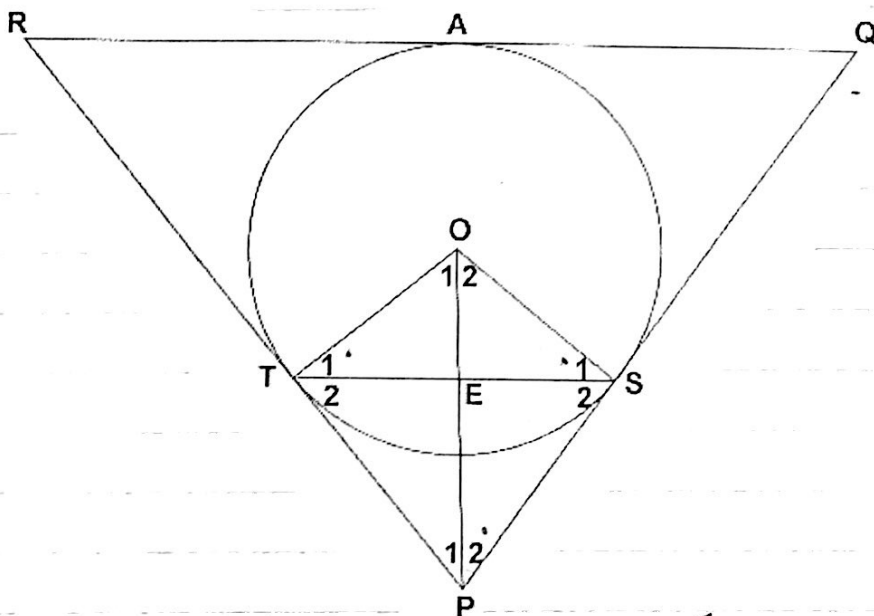
antw ✓ ✓

[12]



- 3.1.  $\angle A_2 = 40^\circ$  (L tussen raaklyn en koord) (2)  $\angle A_2$  rede ✓  
 3.2.  $\angle A_1 = 40^\circ$  (gelyke koorde onderspan gelyke L) (2)  $\angle A_1$  rede ✓  
 3.3.  $\angle B_1 + \angle B_2 = 75^\circ$  (binne L e kvh) (2)  $\angle B_1 + 2$  rede ✓  
 3.4.  $\angle O_1 = 80^\circ$  (midpts L = 2x ontreks L)  $\angle O_1$  rede ✓  
 $\angle C_1 = 50^\circ$  (gelykb  $\Delta$  en som v. L  $\Delta$ )  $\angle C_1$  volledige rede ✓  
 $\angle C_2 = 15^\circ$  (som v. L  $\Delta$ ) (5)  $\angle C_2$  en rede ✓

[11]



4.1

- $\angle T_{1+2} = 90^\circ$  (radius  $\perp$  raaklyn)  $\angle T_{1+2}$  rede ✓  
 $\angle S_{1+2} = 90^\circ$   $\angle S_{1+2}$  rede ✓  
 $\therefore PSOT$  is kvh (tos L e saam  $180^\circ$ ) rede ✓  
 (4)

4.2  $\angle S_1 = \angle T_1$  (gelykbenige  $\Delta$ )

$\angle T_1 = \angle P_2$  (onderspan OS)

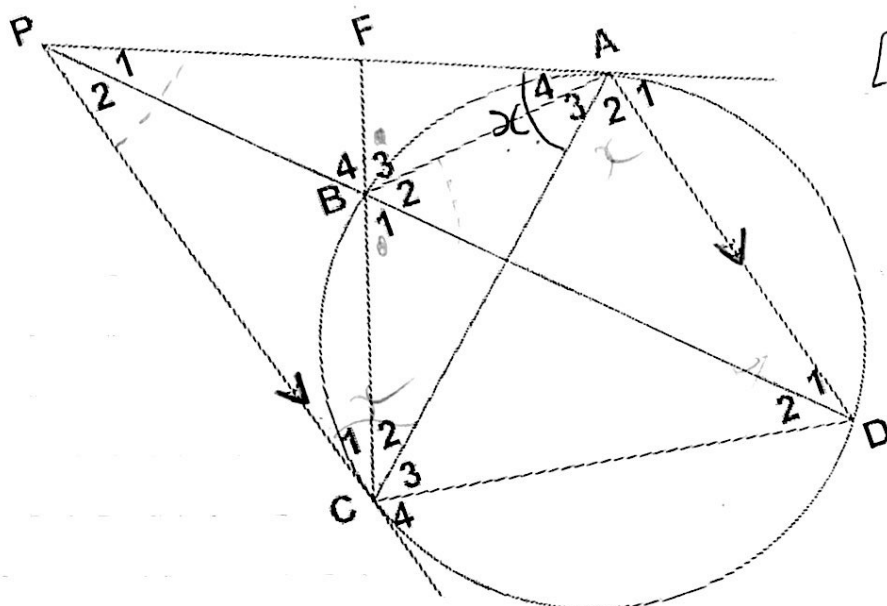
$\therefore \angle S_1 = \angle P_2$

$\therefore OS$  is raaklyn ( $\angle$  tussen raaklyn en koord) (3)

$\angle S_1 = \angle T_1$  reede ✓

$\angle T_1 = \angle P_2$  reede ✓

reede ✓



5.1.  $\angle C_{1+2} = \alpha$  ( $PC = PA$ , raaklyn vanaf punt  $\alpha$  gelykbenige  $\Delta$ )

$\angle A_2 = \alpha$  (verw.  $\angle AD \parallel PC$ )

$\therefore AC$  halveer  $\angle PAD$  (5)

$PC = PA$  en reede ✓

$\angle C_{1+2}$  reede ✓

$\angle A_2$  reede ✓

5.2.  $\angle B_1 = \alpha$  (onderspan deur  $CD$ )

$\angle D_{1+2} = \alpha$  ( $\angle$  tussen raaklyn en koord)

$\angle B_3 = \alpha$  (buite  $\angle$  kvh) (6)

$\therefore \angle B_1 = \angle B_3$

$\angle B_1$  reede ✓

$\angle D_{1+2}$  reede ✓

$\angle B_3$  reede ✓

5.3.  $\angle APC = 180^\circ - 2\alpha$  (Som v.  $\angle$   $\Delta$ )

$\angle B_2 = 180^\circ - 2\alpha$  (gestrekte  $\angle$ ) (2)

$\therefore \angle APC = \angle ABD$

$\angle APC$  en reede ✓

$\angle B_2$  en reede ✓

[13]