

1. Given:  $V_{\max} = 7.8V$ ,  $V_{\min} = 5V$

Solution:

$$V_m = V_{\max} - V_{\min} / 2$$

$$= 7.8 / 2$$

$$= 2.8 / 2$$

$$= 1.4V$$

Answer :

$$= 1.4V$$

2. Given:

$$V_{\text{peak}} = 8.37V, V_{\text{through}} = 3.21V$$

Solution:

$$m = V_{\max} - V_{\min} / V_{\max} + V_{\min} \times 100\%$$

$$= 8.37 - 3.21 / 8.37 + 3.21 \times 100\%$$

$$= 5.16 / 11.58 \times 100\%$$

$$= 44.56\%$$

Answer :

$$= 44.56\%$$

3. Given :

$$V_m = 5.32V, V_c = 9.83V$$

Solution:

$$\begin{aligned}
 m &= V_m / V_c \times 100\% \\
 &= 5.32 / 9.83 \times 100\% \\
 &= 54.12\%
 \end{aligned}$$

Answer:

54.12%

4. Given :

$$\begin{aligned}
 V_c &= V_{\max} - V_m \\
 &= 6.19 - 0.453 \\
 &= 5.737V
 \end{aligned}$$

$$\begin{aligned}
 V_{\min} &= V_c - V_m \\
 &= 5.737 - 0.453 \\
 &= 5.284V
 \end{aligned}$$

Answer: 5.284V

5. Given:

$$V_{\max} = V_c + V_m, V_{\min} = V_c - V_m$$

Solution :

From no. 4 we have  $V_{\max} = 6.19V$  and  $V_m = 0.453V$ ,

We found  $V_{\min} = 5.284V$ ,

and we know  $V_c = V_{\max} - V_m$

Also  $V_{\min} = V_c - V_m = (V_{\max} - V_m) - V_m = V_{\max} - 2V_m$

If we substitute the given values

$$V_{\min} = 6.19 - 2(0.4543) = 6.19 - 0.906 = 5.284V$$

Answer:  $V_{\min} = V_{\max} - 2V_m$