

PROBLEM SHEET 3

ANSWERS

1. a) 628 rad/s  
b) 10 ms  
c) 126 V  
d) 252 V  
e) 89 V
2. a) 100V, 1 A  
b) 141 V, 1.4 A  
c) 282 V, 2.8 A
3. a)  $30^\circ$ ,  $\pi/6$ , 71 V; b)  $45^\circ$ ,  $\pi/4$ , 100 V; c)  $60^\circ$ ,  $\pi/3$ , 122 V; d)  $90^\circ$ ,  $\pi/2$ , 141 V;  
e)  $120^\circ$ ,  $2\pi/3$ , 122 V; f)  $135^\circ$ ,  $3\pi/4$ , 100 V; g)  $150^\circ$ ,  $5\pi/6$ , 71 V; h)  $180^\circ$ ,  $\pi$ , 0 V;
4. a)  $\pm 45^\circ$  ( $\pm \pi/4$ );  
b) 2.5 ms;  
c)  $\approx 0.7$   
d) 300 V A  
e)  $\approx 210$  W
5. Assignment
6. 91 V