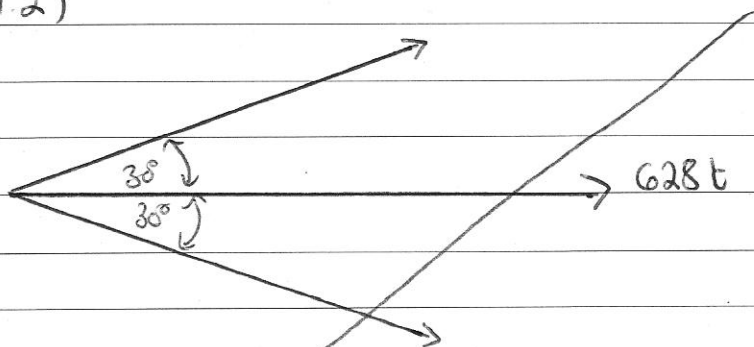


NAME:	STUDENT NO:	<input type="text"/>	MARKS
			%
SUBJECT:	ASSIGNMENT NO:	<input type="text"/>	
	SUBJECT CODE:	<input type="text"/>	TUTORIAL COMMENTS

2.1.2)



$$2\pi \cancel{360} f = 628$$

$$f = \frac{628}{2\pi}$$

$$f = 100 \text{ Hz}$$

(1) ~~2.2~~ $z_1 = 8 + j7 = 10,63 \angle 41,19^\circ$

$$z_2 = 5 + j6 = 7,81 \angle 50,19^\circ$$

$$z_1 + z_2 = 13 + j13 = \cancel{18,44} 18,38 \angle 45^\circ$$

$$z_3 = 5 - j7$$

$$z_p = \frac{z_1 \times z_2}{z_1 + z_2}$$

$$= \frac{10,63 \angle 41,19^\circ \times 7,81 \angle 50,19^\circ}{18,38 \angle 45^\circ}$$



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$$= \left[\frac{10,63 \times 7,81}{18,38} \right] \left[\frac{(41,19 + 50,19) - 44^\circ}{18,38} \right]$$

$$= 4,52 \mid 46,38^\circ$$

$$= 4,52 (\cos(46,38^\circ) + j \sin(46,38^\circ))$$

$$= 4,52 (0,69 + j 0,72)$$

$$Z_p = 3,12 + j 3,25$$

$$Z_T = Z_p + Z_3$$

$$= (3,12 + j 3,25) + (5 - j 7)$$

$$= 8,12 - j 3,75$$

$$= 8,746 \mid -24,79^\circ$$

$$I_T = \frac{V}{Z_T}$$

$$= \frac{150 \angle 0^\circ}{8,746 \mid -24,79^\circ}$$

$$= 17,151 \text{ A}$$

$$(2) \cos \phi = 0,91 \text{ lag } (\phi = -24,79^\circ)$$

