

1- ليكن لدينا الأعداد العقدية: $Z_1 = 2 + 4i$, $Z_2 = 3 - i$, $Z_3 = -\frac{5}{2}i$ اوجد ما ان مرافق Z_1 :

$\bar{Z}_1 = 2 - 4i$	d	$\bar{Z}_1 = -2 + 4i$	c	$\bar{Z}_1 = -2 - 4i$	b	$\bar{Z}_1 = 2 + 4i$	a
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2- $Z_3 = ?$

$\bar{Z}_3 = -\frac{2}{5}i$	d	$\bar{Z}_3 = -\frac{5}{2}i$	c	$\bar{Z}_3 = \frac{5}{2}i$	b	$\bar{Z}_3 = \frac{2}{5}i$	a
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3- $Z_1 + Z_2 = ?$

$5 - 3i$	d	$-5 + 3i$	c	$-5 - 3i$	b	$5 + 3i$	a
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4- $Z_3 - Z_1 = ?$

$2 + \frac{13}{2}i$	d	$2 - \frac{13}{2}i$	c	$-2 + \frac{13}{2}i$	b	$-2 - \frac{13}{2}i$	a
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5- $Z_1, Z_2 = ?$

$-10 - 10i$	d	$10 + 10i$	c	$10 - 10i$	b	$-10 + 10i$	a
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6- $Re(Z_3) = ?$

$-\frac{5}{2}$	d	1	c	0	b	$-\frac{2}{5}$	a
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7- $Im(Z_2) = ?$

1	d	3	c	-1	b	-3	a
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8- $Z_1^2 = ?$

$12 + 8i$	d	$12 - 16i$	c	$-12 + 8i$	b	$-12 + 16i$	a
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ليكن لدينا العددان العقديان: $Z_1 = \cos\left(\frac{\pi}{3}\right) + i\sin\left(\frac{\pi}{3}\right)$, $Z_2 = 3\left(\cos\left(-\frac{\pi}{4}\right) + i\sin\left(-\frac{\pi}{4}\right)\right)$ اوجد:

9- $|Z_1| = ?$

غير ذلك	d	$ Z_1 = 1$	c	$ Z_1 = 0$	b	$ Z_1 = 2$	a
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10- $|Z_2| = ?$

$ Z_2 = 2$	d	$ Z_2 = 3$	c	$ Z_2 = -3$	b	$ Z_2 = 1$	a
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11- $\bar{Z}_1 = ?$

$\cos\left(\frac{\pi}{3}\right) + i\sin\left(-\frac{\pi}{3}\right)$	d	$\cos\left(\frac{\pi}{3}\right) - i\sin\left(\frac{\pi}{3}\right)$	c	$-\cos\left(\frac{\pi}{3}\right) - i\sin\left(\frac{\pi}{3}\right)$	b	$\cos\left(-\frac{\pi}{3}\right) + i\sin\left(-\frac{\pi}{3}\right)$	a
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12- $\bar{Z}_2 = ?$

غير ذلك	d	$3\left(\cos\left(\frac{\pi}{4}\right) + i\sin\left(\frac{\pi}{4}\right)\right)$	c	$3\left(\cos\left(-\frac{\pi}{4}\right) - i\sin\left(\frac{\pi}{4}\right)\right)$	b	$-3\left(\cos\left(\frac{\pi}{4}\right) - i\sin\left(\frac{\pi}{4}\right)\right)$	a
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13- $\arg(Z_2) = ?$

$\frac{3\pi}{4}$	d	$-\frac{\pi}{4}$	c	$\frac{\pi}{4}$	b	$-\frac{3\pi}{4}$	a
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14- $(Z_1)^7 = ?$

$\cos\left(\frac{\pi}{21}\right) + i\sin\left(\frac{\pi}{21}\right)$	d	$\cos\left(\frac{\pi}{3}\right) + i\sin\left(\frac{7\pi}{3}\right)$	c	$7\left(\cos\left(\frac{7\pi}{3}\right) + i\sin\left(\frac{7\pi}{3}\right)\right)$	b	$\cos\left(\frac{7\pi}{3}\right) + i\sin\left(\frac{7\pi}{3}\right)$	a
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15- $(Z_2)^2 = ?$

$27\left(\cos\left(-\frac{3\pi}{12}\right) + i\sin\left(-\frac{3\pi}{12}\right)\right)$	b	$27\left(\cos\left(\frac{3\pi}{4}\right) + i\sin\left(\frac{3\pi}{4}\right)\right)$	a
$27\left(\cos\left(-\frac{3\pi}{4}\right) + i\sin\left(-\frac{3\pi}{4}\right)\right)$	d	$9\left(\cos\left(-\frac{3\pi}{4}\right) + i\sin\left(-\frac{3\pi}{4}\right)\right)$	c

16- $Z_1, Z_2 = ?$

$\cos\left(\frac{\pi}{12}\right) + i\sin\left(\frac{\pi}{12}\right)$	b	$3\left(\cos\left(\frac{\pi}{12}\right) + i\sin\left(\frac{\pi}{12}\right)\right)$	a
$3\left(\cos\left(-\frac{\pi}{12}\right) + i\sin\left(-\frac{\pi}{12}\right)\right)$	d	$3\left(\cos\left(\frac{7\pi}{12}\right) + i\sin\left(\frac{7\pi}{12}\right)\right)$	c

17- $\frac{Z_1}{Z_2} = ?$

$\frac{1}{3}\left(\cos\left(\frac{7\pi}{12}\right) + i\sin\left(\frac{7\pi}{12}\right)\right)$	b	$-\frac{1}{3}\left(\cos\left(\frac{7\pi}{12}\right) + i\sin\left(\frac{7\pi}{12}\right)\right)$	a
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$\frac{1}{3}(\cos(-\frac{7\pi}{12}) + i\sin(-\frac{7\pi}{12}))$	d	$-\frac{1}{3}(\cos(-\frac{7\pi}{12}) + i\sin(-\frac{7\pi}{12}))$	c
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-18 $\frac{Z_2}{Z_1} = ?$

$3(\cos(\frac{7\pi}{12}) + i\sin(\frac{7\pi}{12}))$	b	$-3(\cos(-\frac{7\pi}{12}) + i\sin(-\frac{7\pi}{12}))$	a
$-3(\cos(-\frac{7\pi}{12}) + i\sin(-\frac{7\pi}{12}))$	d	$3(\cos(-\frac{7\pi}{12}) + i\sin(-\frac{7\pi}{12}))$	c

اكتب بالشكل الجبري:

-19 $Z = \frac{1}{2-i}$

$\frac{2}{5} - \frac{1}{5}i$	d	$\frac{1}{5} + \frac{2}{5}i$	c	$\frac{2}{5} + \frac{1}{5}i$	b	$-\frac{2}{5} - \frac{1}{5}i$	a
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-20 $Z = (1+i)e^{\frac{\pi}{4}}$

$2 - 2i$	d	$\sqrt{2}i$	c	$\sqrt{2} + \sqrt{2}i$	b	$2 + 2i$	a
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اكتب بالشكل المثلثي:

-21 $Z = \sqrt{3} - 3$

غير ذلك	d	$(3 - \sqrt{3})(\cos \pi + i\sin \pi)$	c	$\sqrt{3} \cos(\pi) + i\sin(\pi)$	b	$3 \cos(\pi) + i\sin(\pi)$	a
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-22 ان طويلة العدد $Z = \sin \theta + i\cos \theta$ يساوي

4	d	1	c	12	b	2	a
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-23 ان زاوية العدد $Z = \cos \frac{\pi}{3} + i\cos \frac{\pi}{3}$ تساوي

$\frac{\pi}{12}$	d	$\frac{\pi}{6}$	c	$\frac{\pi}{3}$	b	$\frac{\pi}{4}$	a
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-24 ان طويلة العدد $Z = \cos \frac{\pi}{3} + i\cos \frac{\pi}{3}$ تساوي

2	d	$\frac{\sqrt{2}}{2}$	c	$\sqrt{2}$	b	1	a
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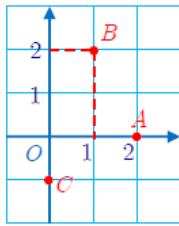
قدماً نحو الأمام...

-1 إذا كان $z = a + ib$ فإن الشكل الجبري للعدد $\frac{1}{z}$ هو:

$\frac{a}{a^2 + b^2} + i\frac{b}{a^2 + b^2}$	b	$\frac{1}{a} + \frac{1}{b}i$	a
$\frac{a}{a^2 - b^2} - i\frac{b}{a^2 - b^2}$	d	$\frac{a}{a^2 + b^2} - i\frac{b}{a^2 + b^2}$	c

• ليكن x عدداً عقدياً تمثله النقطة M في المستوي وليكن $z = 2 + x(1+i)$

أجب عن الأسئلة:

-2 إن الشكل الجبري للعدد z في حالة $M = A$ يساوي:

$z = 2 - i$	d	$z = 6 + i$	c	$z = 2$	b	$z = 3$	a
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-3 إن الشكل الجبري للعدد z في حالة $M = B$ يساوي:

$z = 3 - 2i$	d	$z = -3 + 2i$	c	$z = -3 - 2i$	b	$z = 3 + 2i$	a
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-4 إن الشكل الجبري للعدد z في حالة $M = C$ يساوي:

$z = 1 - i$	d	$z = 6 + i$	c	$z = -3 - 2i$	b	$z = 1 + i$	a
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-5 الشكل الجبري للعدد $Z = \frac{\sqrt{2}+i}{\sqrt{2}-i} + \frac{\sqrt{2}-i}{\sqrt{2}+i}$ هو:

$z = \frac{2}{3} + \frac{2}{3}i$	d	$z = \frac{2}{3}i$	c	$z = \frac{2}{3}$	b	$z = \frac{2}{3} - 3i$	a
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