Precalculus Name_____ ID: 1

Complex Number Practice 1

Date_____ Period____

Find the absolute value.

1) $3\sqrt{2} + 3i\sqrt{2}$

2) $-6 + 5i$

3) $-\frac{3\sqrt{3}}{2} - \frac{3}{2}i$

4) $\frac{5\sqrt{2}}{2} - \frac{5\sqrt{2}}{2}i$

Convert numbers in rectangular form to polar form and numbers in polar form to rectangular form.

5) $3 + 3i\sqrt{3}$

6) $-6i$

7) $-2 + 2i\sqrt{3}$

8) 5

Write each in rectangular form.

9) $\sqrt{6}\left(\cos\frac{7\pi}{6} + i\sin\frac{7\pi}{6}\right)$

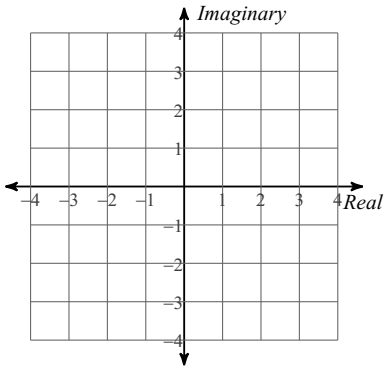
10) $6(\cos 315 + i\sin 315)$

11) $3(\cos 225 + i\sin 225)$

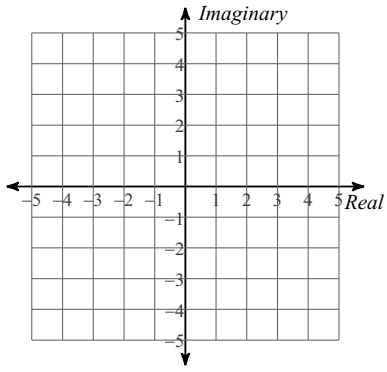
12) $3(\cos 90 + i\sin 90)$

Plot each point in the complex plane using rectangular coordinates.

13) -2

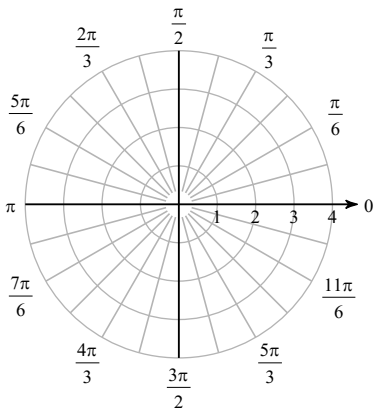


14) $2 + 5i$

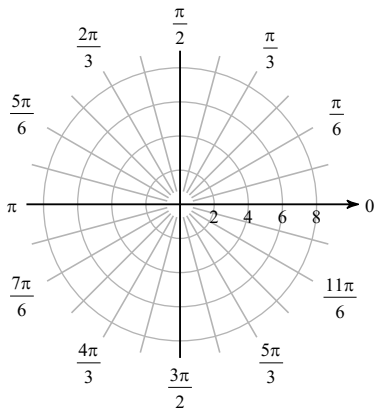


Plot each point in the complex plane using polar coordinates.

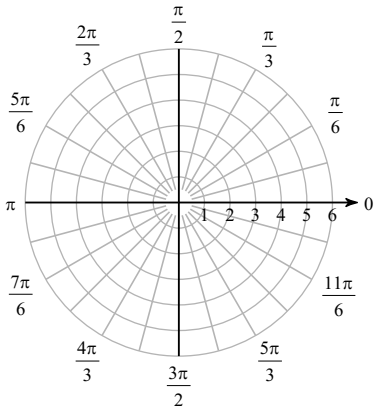
15) $2\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right)$



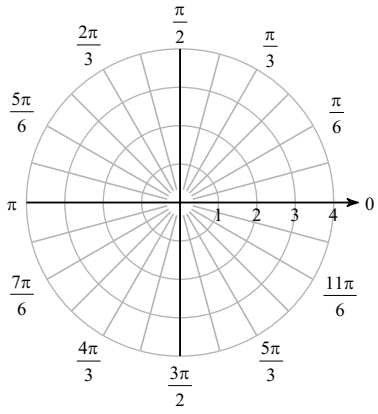
16) $6\left(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}\right)$



17) $4\left(\cos\frac{7\pi}{6}+i\sin\frac{7\pi}{6}\right)$



18) $2\left(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}\right)$



Precalculus Name_____ ID: 1

Complex Number Practice 1

Date_____ Period____

Find the absolute value.

1) $3\sqrt{2} + 3i\sqrt{2}$

6

2) $-6 + 5i$

$\sqrt{61}$

3) $-\frac{3\sqrt{3}}{2} - \frac{3}{2}i$

3

4) $\frac{5\sqrt{2}}{2} - \frac{5\sqrt{2}}{2}i$

5

Convert numbers in rectangular form to polar form and numbers in polar form to rectangular form.

5) $3 + 3i\sqrt{3}$ $6\left(\cos\frac{\pi}{3} + i\sin\frac{\pi}{3}\right)$

6) $-6i$

$6(\cos 270 + i\sin 270)$

7) $-2 + 2i\sqrt{3}$

$4(\cos 120 + i\sin 120)$

8) 5

$5(\cos 0 + i\sin 0)$

Write each in rectangular form.

9) $\sqrt{6}\left(\cos\frac{7\pi}{6} + i\sin\frac{7\pi}{6}\right)$ $-\frac{3\sqrt{2}}{2} - \frac{\sqrt{6}}{2}i$

10) $6(\cos 315 + i\sin 315)$

$3\sqrt{2} - 3i\sqrt{2}$

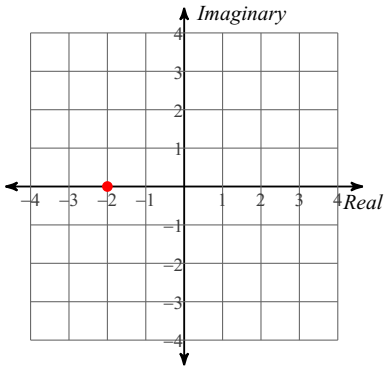
11) $3(\cos 225 + i\sin 225)$ $-\frac{3\sqrt{2}}{2} - \frac{3\sqrt{2}}{2}i$

12) $3(\cos 90 + i\sin 90)$

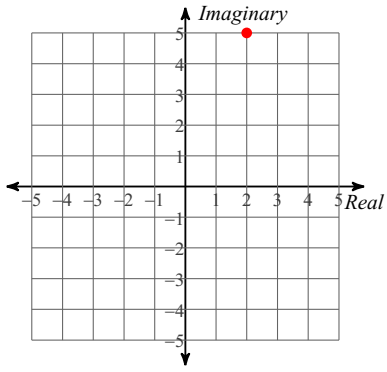
$3i$

Plot each point in the complex plane using rectangular coordinates.

13) -2

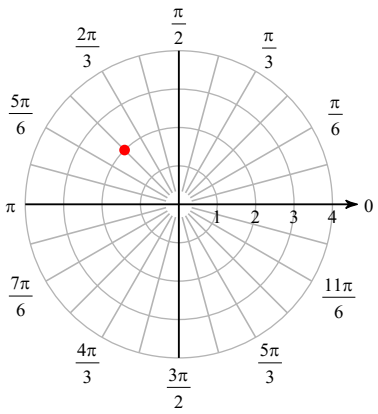


14) $2 + 5i$

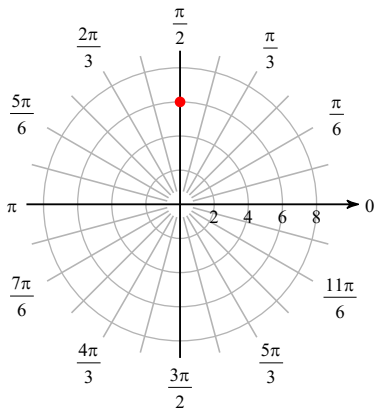


Plot each point in the complex plane using polar coordinates.

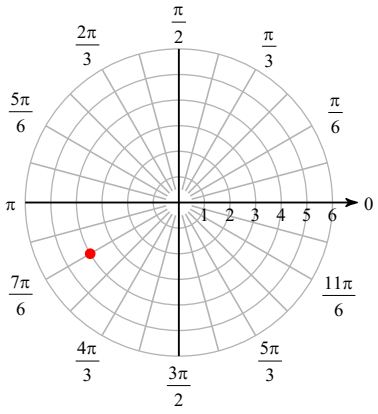
15) $2\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right)$



16) $6\left(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}\right)$



17) $4\left(\cos\frac{7\pi}{6}+i\sin\frac{7\pi}{6}\right)$



18) $2\left(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}\right)$