

p. 273 evens

#16 $7+4i$ #18 $i\sqrt{7}$

#18 $-7-10i$ #10 $9i$

#20 $9-23i$

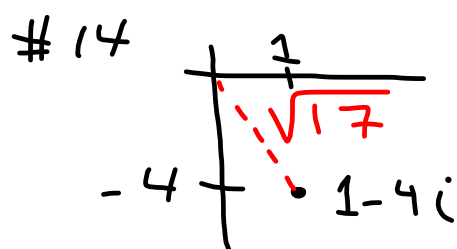
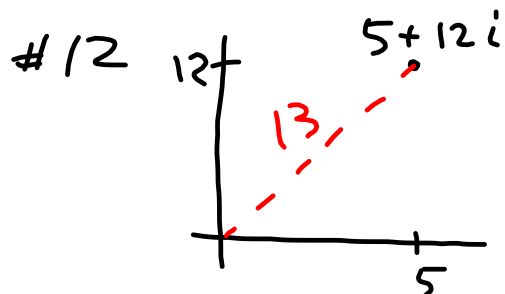
#22 $-\frac{2}{5}-\frac{3}{5}i$

#24 $-\frac{3}{5}-\frac{4}{5}i$

#26 $288i$

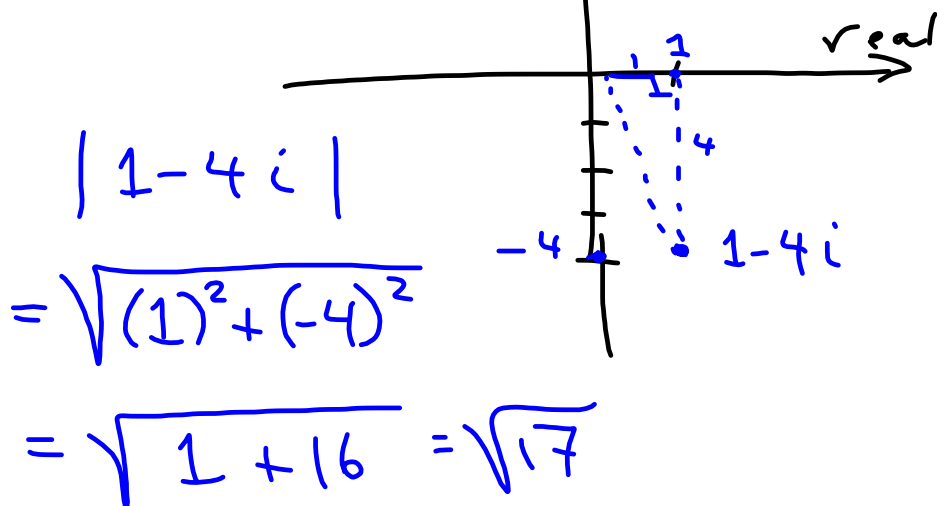
#28 $6+10i$

#30 $7-i$



#14 $1-4i$

complex plane

plot,
abs value
real = 1
imag = -4i

$$\begin{aligned}
 \#24 \quad & \frac{i+2}{i-2} \\
 & = \frac{2+i}{-2+i} \cdot \frac{-2-i}{-2-i} \\
 & = \frac{-4-2i-2i+1}{4+\cancel{2i-2i}+1} \\
 & = \frac{-3-4i}{5} \\
 & = -\frac{3}{5} - \frac{4}{5}i
 \end{aligned}$$

$$\begin{aligned}
 \#25 \quad & \frac{4}{2-3i} \cdot \frac{2+3i}{2+3i} \\
 & = \frac{8+12i}{4+\cancel{6i-6i}-9i^2} \\
 & = \frac{8+12i}{13} \\
 & = \frac{8}{13} + \frac{12}{13}i
 \end{aligned}$$

Ans▶Frac	$\frac{8}{13}$	real
imag(A)▶Frac	$\frac{12}{13}$	imag

$$\text{Answer: } \frac{8}{13} + \frac{12}{13}i$$

$$\begin{aligned} \# 27 & (2 + \sqrt{-1}) + (-3 + \sqrt{-16}) \\ & = (2 + i) + (-3 + i\sqrt{16}) \\ & = 2 + i - 3 + 4i \\ & = -1 + 5i \end{aligned}$$

complex conjugates.

$$2 + 3i \quad 2 - 3i$$

$$-5 + 7i \quad -5 - 7i$$

$$-2 - 5i \quad -2 + 5i$$

$$-3 - 13i \quad -3 + 13i$$

$$2 - 4i \quad 2 + 4i$$

$$\frac{6i}{6i} = 1$$

$$\frac{3 + 6i}{-4 + 6i}$$

$$-4 + 6i$$

$$\frac{6i + 12i^2}{6i - 18i^2} = \frac{6i(1 + 2i)}{6i(1 - 3i)}$$

$$= \frac{1 + 2i}{1 - 3i}$$

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reciprocal of $2+5i$

$\frac{1}{2+5i}$		real(A)*Frac		$\frac{2}{29}$
		imag(A)*Frac		$-\frac{5}{29}$

$$\frac{2}{29} - \frac{5}{29}i$$

$$\frac{1}{a+bi} \cdot \frac{a-bi}{a-bi}$$