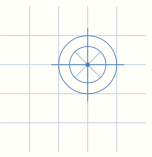


Complex numbers — Dividing by the conjugate



Name: _____

Date: _____

Divide each pair. Multiply above and below by the conjugate of the bottom.

1 $(-2 + 3i) \div (2 + 3i)$

conjugate of $2 + 3i$ is $2 - 3i$

$(-2 + 3i)(2 - 3i)$ over $(2 + 3i)(2 - 3i)$

bottom = $2^2 + 3^2 = 13$

$$= \frac{5}{13} + \frac{12}{13}i$$

2 $(-6 + 6i) \div (1 - 4i)$

3 $(-1 - 6i) \div (6 + i)$

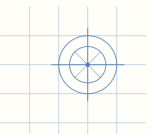
4 $(-3 + 5i) \div (-6 + 6i)$

5 $(-3 - 6i) \div (-6 - 6i)$

6 $(4 - 3i) \div (5 - 6i)$



Complex numbers · Dividing by the conjugate — Answer key



$$1. (-2 + 3i) \div (2 + 3i) = \frac{5}{13} + \frac{12}{13}i$$

$$2. (-6 + 6i) \div (1 - 4i) = -\frac{30}{17} - \frac{18}{17}i$$

$$3. (-1 - 6i) \div (6 + i) = -\frac{12}{37} - \frac{35}{37}i$$

$$4. (-3 + 5i) \div (-6 + 6i) = \frac{2}{3} - \frac{1}{6}i$$

$$5. (-3 - 6i) \div (-6 - 6i) = \frac{3}{4} + \frac{1}{4}i$$

$$6. (4 - 3i) \div (5 - 6i) = \frac{38}{61} + \frac{9}{61}i$$