

Ready, Set, Go!

Ready

Topic: Solving Systems of linear equations

Solve each system of equations using substitution.

1.

$$\begin{cases} y = 3x \\ y = -2x - 15 \end{cases}$$

2.

$$\begin{cases} 3x + y = 21 \\ y = -2x - 15 \end{cases}$$

3.

$$\begin{cases} 3x + 2y = 7 \\ x - 2y = -3 \end{cases}$$

Solve each system of equations using elimination.

4.

$$\begin{cases} 5x - y = 13 \\ -2x + y = -1 \end{cases}$$

5.

$$\begin{cases} 3x + y = 21 \\ -3x + 5y = -3 \end{cases}$$

6.

$$\begin{cases} 3x + 2y = 7 \\ x + y = 2 \end{cases}$$

Create an augmented matrix for each system of equations and then use row reductions to solve the system.

7.

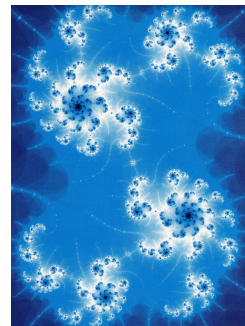
$$\begin{cases} 2x + y = 7 \\ -2x + y = -1 \end{cases}$$

8.

$$\begin{cases} 3x - 4y = 11 \\ -3x + 5y = -3 \end{cases}$$

9.

$$\begin{cases} 5x - y = 13 \\ -2x + y = -1 \end{cases}$$



Set

Topic: Operations with imaginary numbers

Perform the indicated operations on the complex numbers.

10. $(3 + 4i) + (2 - 5i)$ 11. $(6 - 4i) - (7 + 2i)$ 12. $3(5 + 2i)$
13. $(9 - 2i)(1 + 3i)$ 14. $4(3 - 2i) - (5 + 3i)$ 15. $(2 - 5i)(2 + 5i)$

Use the conjugate of each denominator to rationalize the denominators and write an equivalent fraction.

16. $\frac{3 - 5i}{2 + 5i}$ 17. $\frac{6 + 7i}{4 - 3i}$ 18. $\frac{2 - 3i}{1 - 6i}$

Find the modulus for each complex number.

19. $3 - 5i$ 20. $4 - 3i$ 21. $-4 + 3i$

22. If the graphical representation of the operations between two complex numbers results in a value along the y-axis or imaginary axis, what must be true about the two complex numbers?

23. If the graphical representation of the operations between two complex numbers results in a value along the x-axis or real number axis, what must be true about the two complex numbers?



Go

Topic: Solving Quadratics

24. List the strategies that can be used to solve quadratic equations. Explain when each of the strategies would be most efficient. Give an example of a quadratic that would be most efficiently solved for each.

Solve the quadratics below using an appropriate method.

25. $x^2 + 9x + 18 = 0$

26. $x^2 - 2x - 3 = 0$

27. $2x^2 - 5x + 3 = 0$

28. $(x - 2)(x + 3) = 0$

29. $10x^2 - x + 9 = 0$

30. $(x - 2)^2 = 20$

