

Solving by Substitution

- ▶ Substitution works whatever form the equations are in, but it's best when you have one equation in standard form and one equation in slope-intercept form.
- ▶ Steps for solving by substitution:
 1. Isolate one variable in one of the equations.
 1. You will have an equation that looks like: $(\text{variable}) = (\text{expression})$
 2. Skip unless both equations are in standard form
 2. Substitute the expression for the variable in the second equation.
 3. Solve the equation.
 4. Substitute the value back into the original equation and solve.

Solve by Substitution

▶ $y = 4x + 22$
 $-8x - 8y = -16$

▶ Your turn!

1. $y = -2x - 3$
 $4x + 2y = 4$

2. $y = 4x + 11$
 $-x - 3y = -7$

3. $8x - 4y = 16$
 $y = 3x - 10$

4. $x = 2y + 1$
 $3x - 2y = 3$

Solve by Substitution

▶ $y = 4x - 8$
 $y = -5x + 19$

▶ Your turn!

1. $y = -6x + 1$
 $y = -2x + 1$

2. $y = -3x - 13$
 $y = 5$

3. $y = -2x - 5$
 $y = x + 10$