5.4: Writing Equations of Lines in Standard Form

Goals: *Write equivalent standard form equations

*Write equations in standard form

*Complete standard form equations

*Use standard form equations to solve combination problems

STANDARD FORM!

1. Write equivalent equations in standard form:

For each equation write two equivalent standard form equations:

Ex: 2x - 6y = 4 **Ex:** x - y = 3 **Ex:** x + 4y = 3

2. Write equations in standard form with given information.



Ex: passes through (3, -1)(2, -3)

Ex: passes through (2, 2) (4, -2)

3. Complete an equation in standard form

For each equation use the information to find the missing coefficient. Then write the equation in standard form.

Ex: Ax + 3y = 2, passes through the point (-1, 0)

Ex: -4x + By = 7, passes through the point (-1, 1)

Ex: Ax + 4y = 6, passes through the point (2, 0)

Ex: Ax + y = -3, passes through the point (2, 11)

Ex: Your class is taking a trip to the public library. You can travel in small and large vans. A small van holds 8 people and a large van holds 12 people. One possible way your class could get there is to fill 15 small vans and 2 large vans.

a. Write an equation to model all of the possible combinations of small and large vans your class could take.

of large vans

204 18 16

14

2 4 6

8 10 12 14 16 18 20

of small vans

- b. Graph the equation.
- c. Use your graph to find more possible combinations of vans.

Ex: At a flea-market t-shirts cost \$4.50 and shorts cost \$6. You have enough money that if you wanted to you could buy exactly 12 t-shirts and 9 pairs of shorts.

- a. Write an equation to model all of the possible combinations of t-shirts and shorts that you can buy.
- b. Graph the equation.
- c. List the possible combinations of t-shirts and shorts you can buy.



of T-shirts