Alg 1 Week 15 Friday   Warm Up

Skill 10: Systems of Equations. Solve the following problem using substitution.
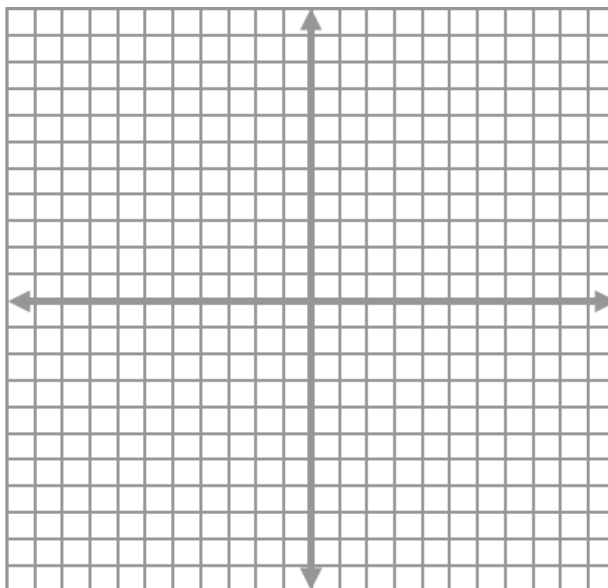
The admission fee at a small fair is $1.50 for children and $4.00 for adults. On a certain day, 2200 people enter the fair and $5050 is collected. How many children and how many adults attended?

Skill 9: Solve a System of Linear Equations by Graphing.

Remember to check your answer in both equations.

Line A: $y = 3x - 2$

Line B: $y = -2x - 7$

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Algebra I **Final Review #1** Name:_____

Period:_____
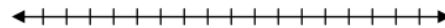
Solve Equations

1. $3(x-4)-2(3x+4)=x+4$

2. $-\dfrac{3}{4}x-2=25$

3. $3(2x-1)+5-2x=5-(6x-17)$
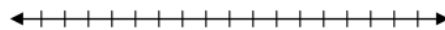
4. $.05x+.25(2x-3)=6.40$

Solve and Graph Inequalities on a Number Line.

Solve the following inequalities and <u>graph the solution set on a number line.</u> Test one possible solution.
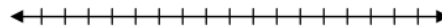
5. $3(2x-5)+8\le 12-(x-2)$

6. $-3(5x-6)+12>-4-(2x+5)$

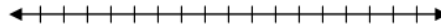7. $8y-(3y+3)<11+4(3y-9)-6$

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Solve Absolute Value Equations

Solve the following absolute value equations. Then graph the solution set on a number line.

8. $|z + 6| - 3 = 4$

← +++++++++++++++++++++++ →
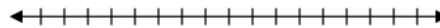
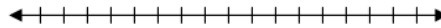### Solve Absolute Value Inequalities

Solve the following absolute value inequality. Then graph the solution set on a number line.

9. $|2x + 3| < 15$

← +++++++++++++++++++++++ →

10. $|-2x + 2| > 10$

← +++++++++++++++++++++++ →

Proportional Reasoning

11. $\dfrac{3}{5x - 2} = \dfrac{4}{8x + 7}$

12. If 1 gallon of paint covers 450 sq ft, how many gallons are needed to paint a room with 675 sq ft of wall surface?

1st Semester Final Exam Review, Part 2

Graph and Interpret Linear Functions

13. A radio-dispatched taxi company charges $4.00 to pick up a passenger, then adds $.75 per mile traveled to the destination.
The function that represents this situation is:
$C(m) = 0.75m + 4.00$, where C represents the total cost and m represents the number of miles traveled.
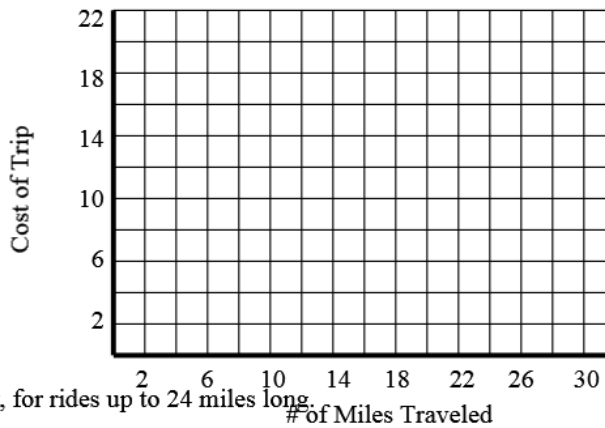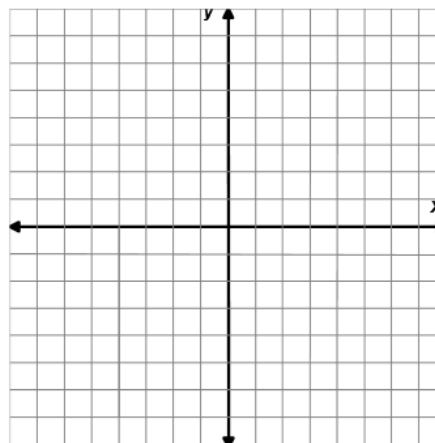
Draw a graph that shows how much it will cost to hire this company, for rides up to 24 miles long.

Use your graph to estimate how far you can travel for $19. **Clearly show your solution on the graph and state it below.**

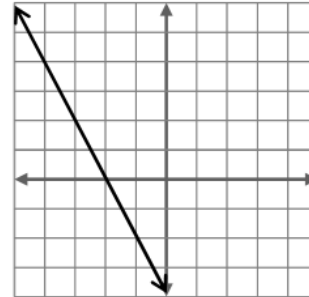| m	$C(m) = 0.75m + 4.00$	C
0		
6		
14		
18		
24		

Graph linear equations

14. Write the following equation in slope-intercept form and graph.

$4x - 5y = 20$

15. Find the equation of the line in slope-intercept form.

Write the Equation of a Line between Two Points

Given the slope and a point on the line or two points, write the equation in *slope-intercept* form.

16. (1, 2) and (-2, 5)

17. $m = \dfrac{1}{2}$, (-4, 3)

**Write an equation of a parallel and/or perpendicular line given an equation and a point.**

18. Write the equation of a line parallel to $2x + 3y = 12$ that passes through the point (–3, 4).

19. Write the equation of a line perpendicular to $y = 3x + 4$ that passes through the point (6, –4).

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Solve a System by Graphing

Solve the system by graphing. Identify the point of intersection on your graph and check your solution.

20. $y = -x - 1$
    $y = x + 1$

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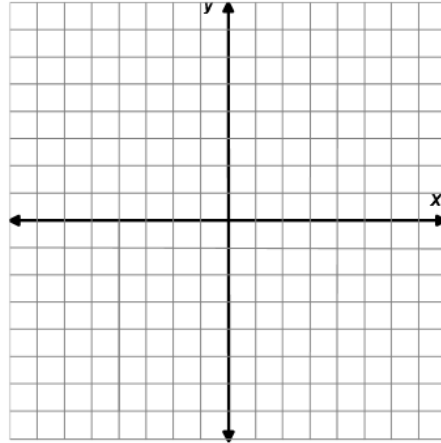
Solve a System of Linear Equations Algebraically

Solve the system of equations by the algebraic method of your choice. Check your solution.

22. $d = 2c + 9$
$c + 2d = 8$

23. $3x + 5y = 2x$
$x + 3y = y$

24. $5m + 2n = -8$
$4m + 3n = 2$

25. $2x - 2y = -15$
$x = 5 - 4y$