

1.1H Linearity Review

Name: _____ Per: _____

SHOW YOUR WORK IN PENCIL ONLY. NO WORK, NO CREDIT.

1. Jessica wants to buy a \$45 pair of shoes. She wrote a check which bounced. The bank charged her a \$20 insufficient funds fee which made her account be overdrawn by \$50. She has a babysitting job each Friday that pays her \$25 a week and she decides to put \$15 into the bank from that money to pay off the overdraft and save for the shoes.
 - a. Write an equation to show how much money she has in the bank at any time. _____
 - b. What is the slope of the equation? _____ What does it mean in context? _____
 - c. If she wants to wear the shoes to a dance in 6 weeks, will she have enough money to buy them? _____

 - d. What is the y-intercept? _____ What does it mean in the context? _____
 - e. How long will it take her to have enough money in the bank to buy the shoes? SYW _____

 - f. Show how to find the x-intercept:

 - g. What is the x-intercept? _____ What does it mean in context? _____
 - h. How would the equation change if she wants to buy 3 pairs of these shoes? _____
 - i. How many weeks will it take her to save enough money to buy 3 pairs of these shoes? _____

2. Daisy, Billy Bob, and Jethro have two equations: $y = -\frac{1}{2}x + 6$ and $x - 2y = -18$. Daisy explains that the slopes are different so they are neither parallel nor perpendicular. Billy Bob says that if you solve both equations for y, they have negative reciprocal slopes and are perpendicular. Who should Jethro believe and **EXPLAIN how you know**. SYW.

3. I bought a bag of candy that weighs 35 ounces with each piece inside weighs 2.5 ounces.
 - a. Define your variables and write an equation that shows how much the bag weighs as I eat each piece.

 - b. Make a 4-column table to show how much the bag weighs if I eat 0 to 4 pieces.

 - c. Equation: _____
 - d. What does your slope represent in this situation? _____
 - e. What does your y-intercept represent in this situation? _____
 - f. Find the x-intercept _____ What does it represent? _____

4. Given the tables below, tell which are linear. If they are linear, find the intercepts and write the equation.

X	Y
3	16
6	22
9	28
12	34

X	Y
-2	-12
5	9
8	18
4	6

X	Y
-2	4
5	25
8	64
4	16

X	Y
-4	7
6	2
2	4
-12	11

Linear? _____
 y-intercept: _____
 x-intercept: _____
 Eq: _____

Linear? _____
 y-intercept: _____
 x-intercept: _____
 Eq: _____

Linear? _____
 y-intercept: _____
 x-intercept: _____
 Eq: _____

Linear? _____
 y-intercept: _____
 x-intercept: _____
 Eq: _____

Find the equations of the lines through the following points and list the slope, y-intercept, and x-intercept.

5. (6, 10) and (4, 14)

6. (-2, 8) and (-6, 6)

Slope: _____ y-int: _____ x-int: _____
 Equation: _____

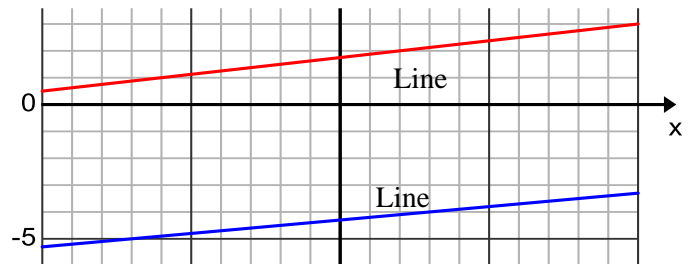
Slope: _____ y-int: _____ x-int: _____
 Equation: _____

7. Tell why the lines on the graph look parallel _____

8. Find the equations of line D. _____

9. Find the equation of line E. _____

10. After finding the equations to the two lines, do you think your answer for #7 is still correct? _____
 Why or why not? _____



11. The student council provided treats and paid for students to attend a ski party for Back to School. The table shows how much they spent for students to come to the party.

X	Y
30	1800
40	2300
50	2800

- Write the above given data as coordinate points. _____
- How much did the treats cost? _____ Explain _____
- Is the relationship between the number of people and total cost linear? _____
 How do you know? _____
- What is the cost per student? _____ . Explain _____

e. If the student council pays \$1550, find how many students attended the party? SYW.