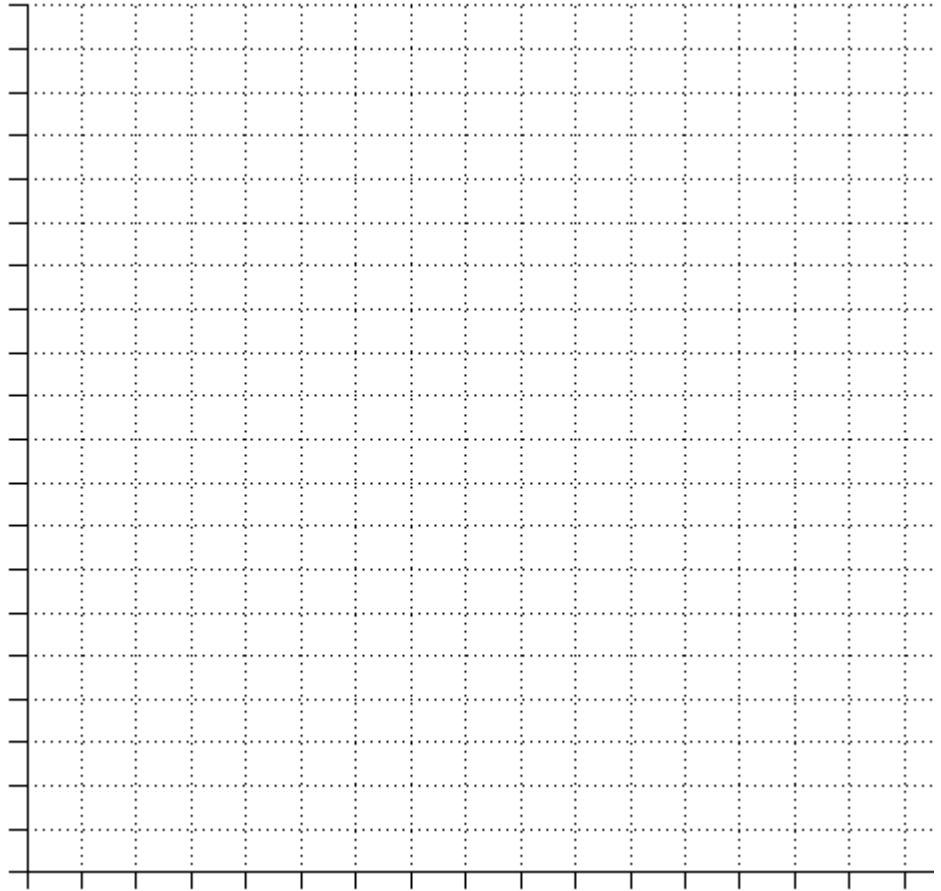


NAME: \_\_\_\_\_

### Bouncing Balls and Linear Functions

1. a. What kind of sport/ball is your team playing/using?  
b. Using your given ball, conduct an experiment comparing:

Drop Height (x)	Bounce Height (y)



- c. Plot the data on the provided graph.  
d. What do you notice about the data?

e. Write a linear function to model the data above.

f. Use the function above to predict the rebound height of your ball dropped from a height of \_\_\_ ft.

2.
  - a. Conduct the same experiment with a ball of the same type that is frozen.
  - b. Place the data in the table to the right.
  - c. Plot the data on the previous graph.
  - d. What do you notice about this data?
  - e. Write a function to model the data.

Drop Height (x)	Bounce Height (y)

- f. Use the function above to predict the rebound height of your ball dropped from a height of \_\_\_ ft.
- g. Based solely on your sport’s ball and the impact of temperature on the ball, explain whether it would be better to use the corresponding ball and play the sport when the ball is warm or cold.

Other Resources for Teachers/Students:

- [https://mps.milwaukee.k12.wi.us/MPS-English/CAO/Documents/RtI-Academics/resources/math-intervention-7RP2b\\_BallBounceTask1.pdf](https://mps.milwaukee.k12.wi.us/MPS-English/CAO/Documents/RtI-Academics/resources/math-intervention-7RP2b_BallBounceTask1.pdf)
- <https://pals.sri.com/tasks/5-8/BounceBall/directs.html>
- <https://www.spaceracers.com/pdf/bounciest-ball-lesson-plan.pdf>
- [www.gettingsmart.com/2016/03/march-madness-teach-stem-sports/](http://www.gettingsmart.com/2016/03/march-madness-teach-stem-sports/)
- [www.exploratorium.edu/baseball/activities/bouncing-balls.html](http://www.exploratorium.edu/baseball/activities/bouncing-balls.html)
- <https://www.twinkl.com/resource/bouncing-balls-science-experiment-au-t2-s-1582>
- <https://community.plu.edu/~dornerbc/teaching/math151/projects/project1/BouncingBall.htm>
- <https://nzmaths.co.nz/resource/bouncing-back>
- [https://digitalcommons.brockport.edu/cgi/viewcontent.cgi?article=1208&context=cmst\\_lessonplans](https://digitalcommons.brockport.edu/cgi/viewcontent.cgi?article=1208&context=cmst_lessonplans)
- <https://www.brooklyn.k12.oh.us/userfiles/66/Classes/13814/Lab%20-Bouncing%20Ball.pdf>
- <http://www.laurel.k12.ky.us/userfiles/532/Classes/35309/01%20-%20Bouncy%20Ball%20and%20Regression.pdf>