

Proximity Student Worksheet

Your name: _____ Class Period _____

Partner's name if you have a partner: _____

Welcome to Data Games!

1) Watch the first short video introducing *Proximity*

- If your teacher wants you to watch this video on your own computer, type in this URL:

<http://tinyurl.com/ProxVidOne>

2) Open the game

- Type in this URL to open the *Proximity* game:

<http://tinyurl.com/proximity-datagame>

3) Click *Play* and start shooting!

4) After you've played two or three games

- (Q1) What do you think is the highest possible score in each game? _____

5) Watch the second short video

- If your teacher wants you to watch this video on your own computer, type in this URL:

<http://tinyurl.com/ProxVidTwo>

6) Keep playing until you earn 500 points on the first level, Doc.

7) If you're having trouble winning on the Doc level

- Use the *Clear Data* button at the top of the screen, and play a game or two where you make sure you don't bounce any shots off the walls.
- Use the ruler to measure the distance from ball to goal.
- Look at your Table or Graph to see if there is a relationship between *distance* and *push*.

Your name: _____ Partner's name if any: _____

8) Move on to the second level, Sneezy

- After you've ended a game on the Doc level, click *Levels* in the lower-right corner of the game box. Choose the Sneezy level, and then click the black x in the top-right corner of the Levels screen to go back to the main game screen.
- Click *Clear Data* at the top of your screen, and then *Yes, delete the data*. In the future, you should decide on your own when you want to clear the data.
- Now you'll need to score over 425 points, two times in a row, to win on the Sneezy level. Go ahead and play on the Sneezy level.

9) After playing two or three games on the Sneezy level

- (Q2) Describe briefly how playing on the Sneezy level is different than playing on the Doc level:
- (Q3) Looking at the data points for the most recent game on the graph, what type of relationship or function does there seem to be between *push* and *distance*? _____
- If you haven't done so already, choose **Show Movable Line** from the Gear menu in the upper-right corner of the Graph.
- Adjust the line by dragging its top and bottom until it passes through your data points. Notice that the equation of this line is given.
- See if you can use the line and its equation to score over 425 points and win on the Sneezy level!
- Use hints on the next page if you get stuck.

Your name: _____ Partner's name if any: _____

Hint Section for the Sneazy Level

Use these hints only if you get stuck on Sneazy.

(Skip this section if you've unlocked the next level, Dopey.)

➤ **Hint One – Clear data**

- Clear your data between every game on the Sneazy level!

➤ **Hint Two – Measure the distance from the ball to the goal**

- Click on the ruler at the top of the game screen.
- Click and drag from the ball to the center of the goal number to measure the distance you need the ball to go.

➤ **Hint Three – Think about a push of 0**

- Since the slope changes from game to game on the Sneazy level, you need to figure out the equation of your line using as few pushes as possible. The questions below will guide you in doing this.
 - What distance would the ball travel if you gave it a *push* of 0? ____
 - Use your answer to the previous question to state the ordered pair for a point that should definitely be on the line. (____, ____)
 - Notice you have now found the *y*-intercept for your line before you've even pushed any balls.
 - Now check out the **Lock Intercept at Zero** command in the Graph's Gear menu, and decide if you want to use that command. You can try choosing it, and then drag your line around and see what it does.
 - Go back to the game and push the ball once with any amount of *push*, without bouncing, and you'll see on your graph another point that needs to be on your line.
 - Drag the movable line to pass through that point, and you'll get the equation to use.
 - Use this equation of the line now to win!

Your name: _____ Partner's name if any: _____

11) After you win on the Sneazy level and unlock the third level, Dopey

- Congratulations!
- Now answer these questions below while reflecting on your work.
- (Q4) What does the slope of your movable line represent in this game? Explain.
- (Q5) What does the y -intercept of your movable line represent in this game? Explain. (See Hint Three above if needed.)
- (Q6) Explain to a new student how to win on the Sneazy level of this game. Write your explanation below.