Name: _____ Date: _____

Period: _____

Zombie in the Neighborhood
Will You Survive?

The Situation:

There is a zombie loose in your neighborhood! If the zombie passes within 10 squares of you, you are zombie food! Will you survive?

You will add your vectors (head to tail, please!) on the graph. You will find your resultant (Pythagorean Theorem is our friend!) and use your trig functions to find the angle.

Use a ruler to help draw your vectors and resultant. Neatness is a thing.

Directions:

1) Go to https://www.random.org/dice/ and use "4 dice".
2) Draw a dot for where you are located. You cannot be on the edge. Pick someplace in the middle.
3) Pick another starting point for your zombie. Your zombie should start on the "edge" of your neighborhood.
4) The zombie will make the moves based on the data table below. Use the sum of your dice in order to determine how far your zombie moves.
5) First move: Your zombie RUNS 20 squares toward the center.
6) Make 5 more moves based on the data table.

Dice Total	Zombie Movement	Dice Total	Zombie Movement
1	10 squares west	13	5 squares north
2	10 squares east	14	5 squares east
3	10 squares south	15	5 squares south
4	10 squares north	16	5 squares west
5	15 squares east	17	12 squares north
6	15 squares south	18	12 squares east
7	15 squares west	19	12 squares south
8	15 squares north	20	12 squares west
9	7 squares north	21	9 squares north
10	7 squares south	22	9 squares south
11	7 squares east	23	9 squares east
12	7 squares west	24	9 squares west

Note: If your zombie hits the edge, simply reroll and see if you get a direction that works.

 https://www.random.org/dice/

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Calculations:

Find the displacement and angle.

Did you survive?

Did the zombie pass with 10 squares of you? If the zombie was 10 squares or less, you were caught! If the zombie was 11 squares or more, you survived!