Math Packet, week 2, optional (but important) work

Parents:	Padres:	Students:
Thank you for supporting your student's learning - we appreciate you. Encourage your student to do as much of this work as they can. Reassure them that it can be normal to get stuck on a math problem and to keep trying; that is how we learn. While this work is optional and not graded you may decide that it is mandatory in your house. If you want to check that they did the work, here is a teacher tip. **Don't just ask to see the paperwork completed. Choose two or three problems and ask them to teach you how to do it.** Not only will this help you check if they understand, but explaining it to you also helps them learn it better.	(lo siento, esto es del traductor de google) Gracias por apoyar el aprendizaje de su hijo. Le agradecemos. Anime a su estudiante a hacer todo el trabajo que pueda. Asegúreles que puede ser normal quedarse atrapado en un problema matemático y seguir intentándolo; Así es como aprendemos. Si bien este trabajo es opcional y no está calificado, puede decidir que es obligatorio en su casa. Si desea verificar que hicieron el trabajo, aquí hay un consejo para el maestro. **No solo pida ver la documentación completa. Elija dos o tres problemas y pídales que le enseñen cómo hacerlo.** Esto no solo lo ayudará a verificar si entienden, sino que si se lo explica, también les ayudará a aprenderlo mejor.	First, we miss you. We know that time off of school may seem pretty awesome at first, but keeping your brain learning is important. Think of this math as exercise for your brain. Math is in the news everywhere lately and it is important to learn these skills so that you are an informed citizen and math will open opportunities for your future educational and career goals. Try your best. The good news is that grading pressure is off; this is all about learning and understanding the math. Remember, if your parents are making you do this it is because they care about your education.

- Key search terms are included in many of the directions so that if you have internet access you can search for videos to help provide examples.
- Answer keys for this work will be provided in next week's packet

We are here for you. Email us if you need any support

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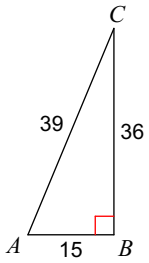
Week 2 Optional Work

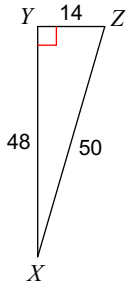
Date_____ Period____

Find the value of each trigonometric ratio to the nearest ten-thousandth. Key search terms: trigonometry, sine, cosine, tangent, ratio.

1) tan *A*

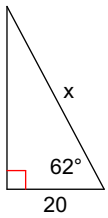


2) sin *Z*



Find the missing side. Round to the nearest tenth. Key search terms: trigonometry, sine, cosine, tangent.

3)



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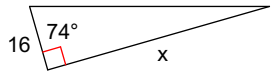
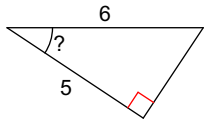


Find the measure of the indicated angle to the nearest degree. Key search terms: trigonometry, arcsine, arccosine, arctangent.

5)



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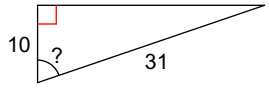
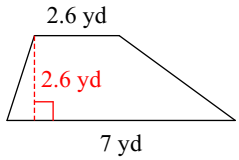


Find the area of each. Key search terms: area of quadrilaterals/triangles.

7)



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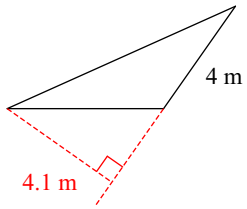

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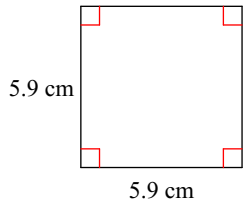
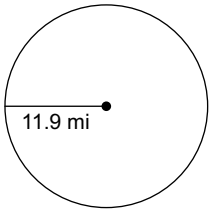
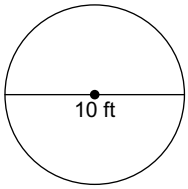


Find the area of each. Use your calculator's value of π. Round your answer to the nearest tenth. Key search terms: area of circles

10)

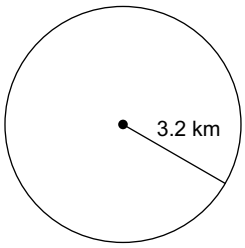


11)

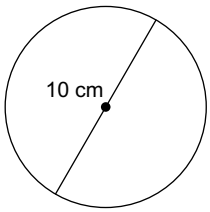


Find the circumference of each circle. Use your calculator's value of π. Round your answer to the nearest tenth. Key search terms: circumference of circles

12)

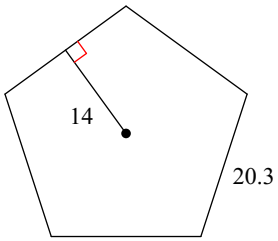


13)

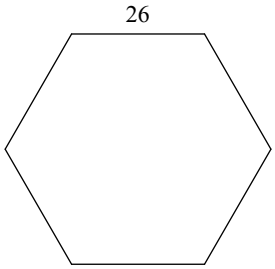


Find the area of each regular polygon. Round your answer to the nearest tenth if necessary. Key search terms: area of regular polygons, apothem, special right triangles.

14)

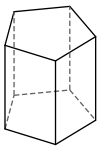


15)



Name each figure. Key search terms: How to name a solid.

16)



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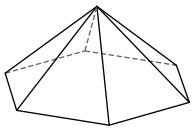

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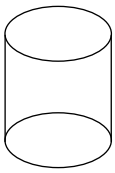
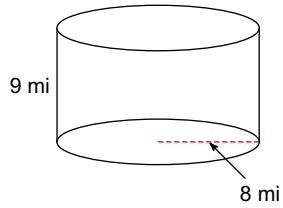


Find the surface area of each figure. Round your answers to the nearest hundredth, if necessary. Key search terms: surface area, prisms, pyramids, cones, spheres

19)



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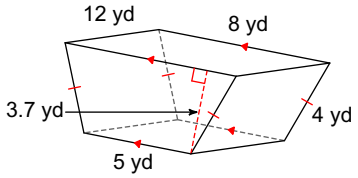

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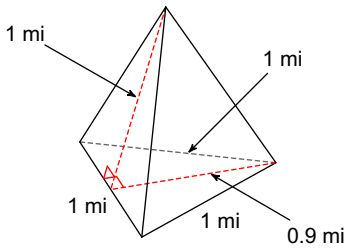
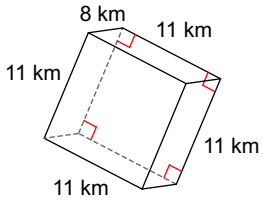
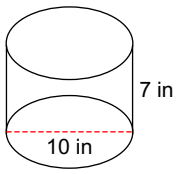


Find the volume of each figure. Round your answers to the nearest hundredth, if necessary. Key search terms: volume of prisms, pyramids, cones, cylinders, spheres.

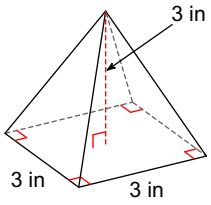
22)



23)

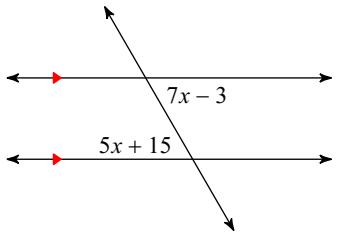


24)



Solve for *x*.

25)



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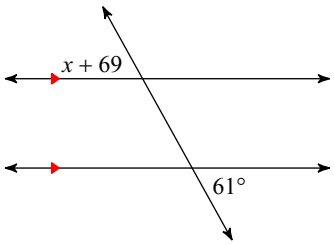
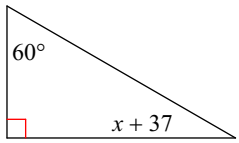
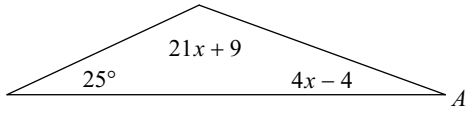


27)



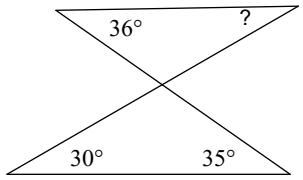
Find the measure of angle A.

28)



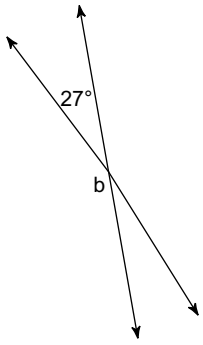
Find the measure of each angle indicated.

29)

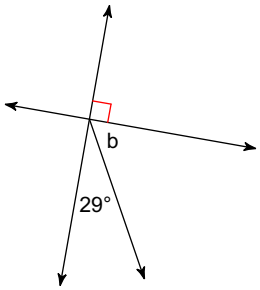


Find the measure of angle b.

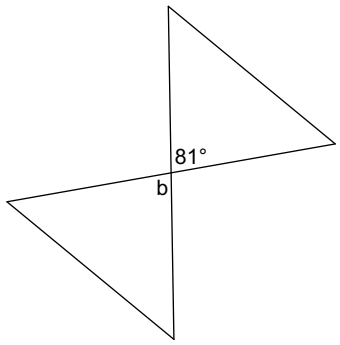
30)



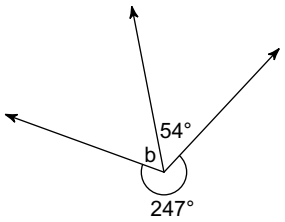
31)



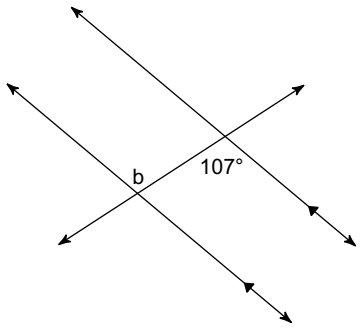
32)



33)

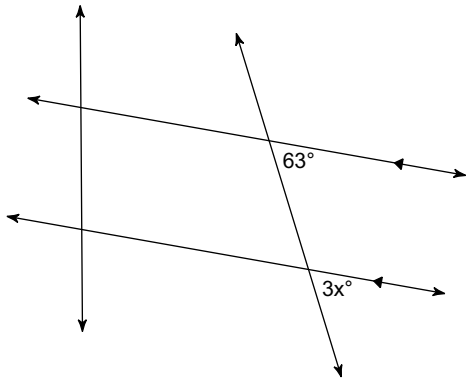


34)



Find the value of x.

35)



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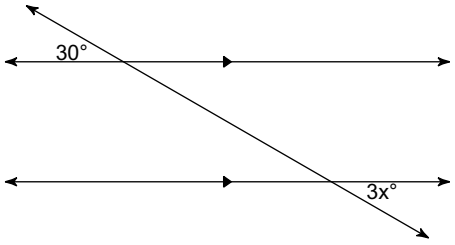
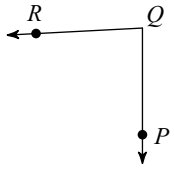


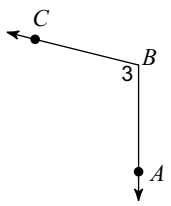
Name the vertex and sides of each angle.

37)



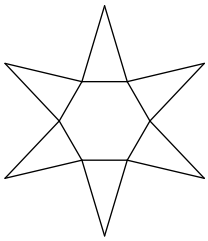
Name each angle in four ways.

38)

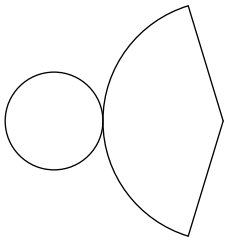


Identify each solid given its net.

39)



40)



Drone Delivery Service

Name: _____ Date: _____

A local company has started a Drone Delivery Service.

The company has a 20-minute delivery guarantee from any restaurant to any house within a 4-mile radius of the Drone Station.

Unfortunately, the company has received many complaints regarding the guarantee.

Your task is to recommend a new guarantee delivery time.

Read the facts about Drones

Drone Facts

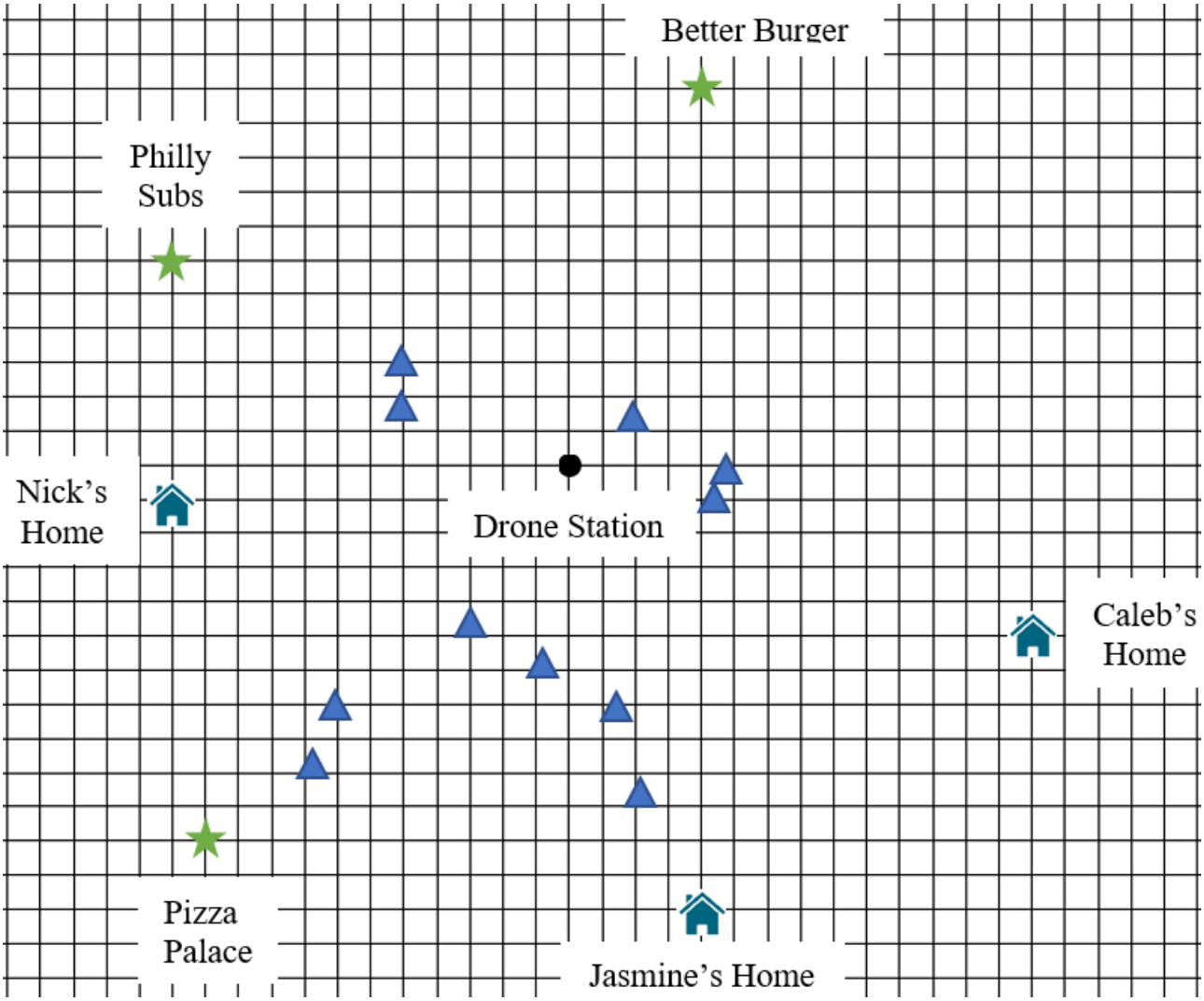
- Average speed of a drone without a payload is 30 miles per hour
- Average speed of a drone with a payload is 20 miles per hour
- Drones cannot fly above 400 feet

The **Drone Map** on page 2 represents the locations of various restaurants, buildings, and homes within the 4-mile radius.

Each grid segment on the map represents ¼ mile.

You are working with customers Caleb, Nick and Jasmine.

Drone Map



KEY

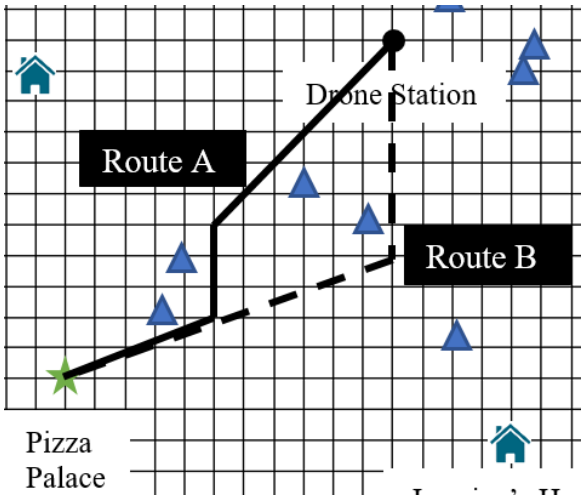
- Represents 0.25 mile
- Represents the Drone Location
- Represents a Restaurant
- Represents a Building that is greater than 400 feet tall
- Represents an individual's home

1. Determine the distance, in miles, between Better Burger and Caleb's Home.

_____

2. Route A take the drone 9.4 minutes. Determine the difference in the number of minutes it takes the drone to fly to the Pizza Palace following Route A compared to following Route B. Justify your decision.

Routes to Pizza Palace



KEY

- Represents 0.25 mile
- Represents the Drone Location
- Represents a Restaurant
- Represents a Building that is greater than 400 feet tall
- Represents an individual's home

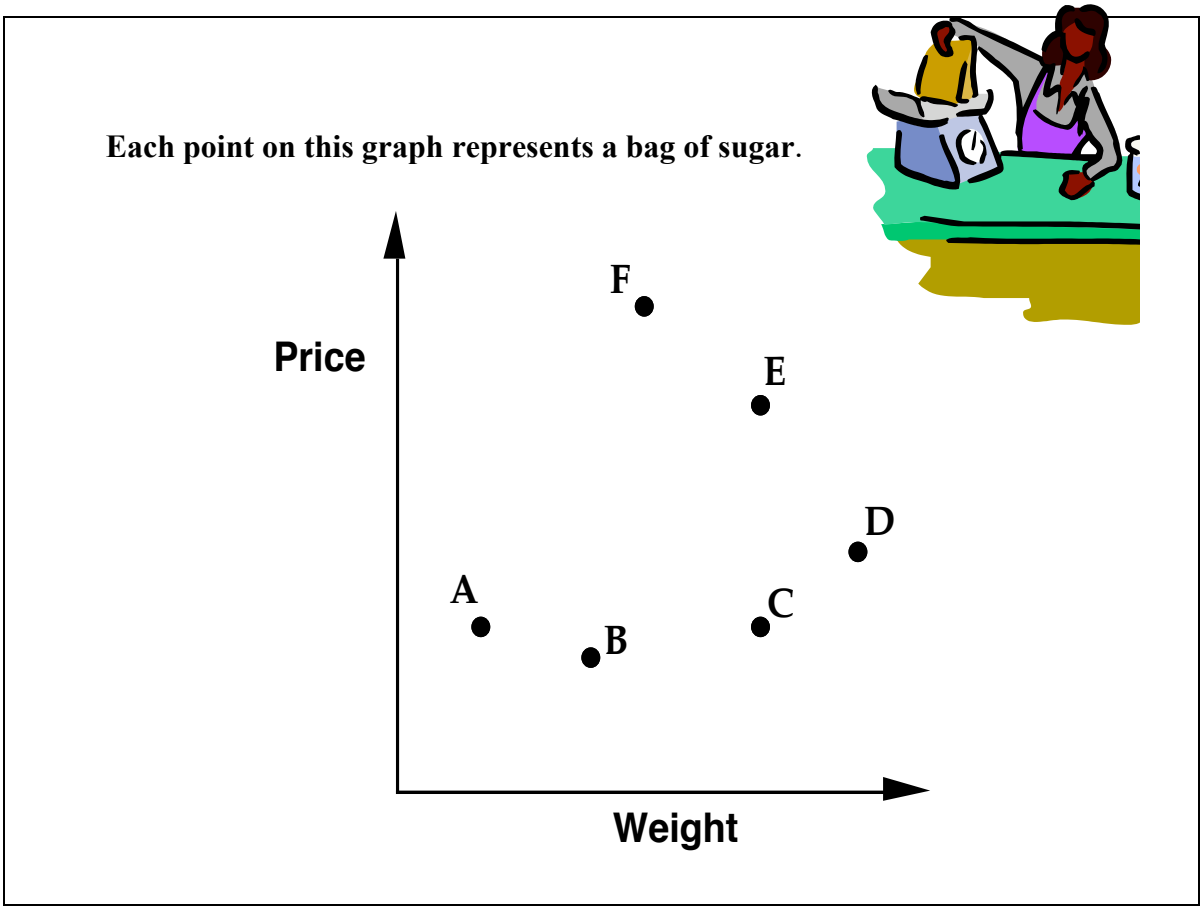
3. Caleb claims that a delivery from Pizza Palace to his house is not within the 20-minute guarantee. Do you agree or disagree with Caleb's claim? Justify your decision.

4. Jasmine claims that the drone **cannot** make **any** delivery to her house within the 20-minute guarantee.

   Do you agree or disagree with Jasmine's claim? Justify your decision.

5. Recommend a more appropriate guaranteed delivery time for the company. Justify your decision.

Sugar Prices



1. Which point shows the heaviest bag? _____

2. Which point shows the cheapest bag? _____

3. Which points show bags with the same weight? _____

4. Which points show bags with the same price? _____

5. Which of F or C gives the best value for money? _____
   How can you tell?

_____

_____

Answers to Week 1 Optional Work (ID: 1)

1) 0.7500
2) 0.7500
3) 0.8000
4) 0.6000
5) 3.9
6) 10.3
7) 13.1
8) 16.7
9) 71°
10) 65°
11) 66°
12) 76°
13) 12.25 m^2
14) 12 ft^2
15) 48 yd^2
16) 33 m^2
17) 20.5 ft^2
18) 380.1 mi^2
19) 452.4 mi^2
20) 176.7 mi^2
21) 88.2 km^2
22) 44 m
23) 14.5 in
24) 31.4 m
25) 13.8 ft
26) 442.8
27) 374.4
28) 187.1
29) 62.4
30) hexagonal prism
31) square pyramid
32) pentagonal pyramid
33) triangular prism
34) cone
35) cylinder
36) 179.3 km^2
37) 561.4 in^2
38) 1230.25 in^2
39) 1256.64 in^2
40) 424.2 km^2
41) 1432.57 yd^2
42) 4071.5 yd^3
43) 374.4 in^3
44) 1072.33 yd^3
45) 113.1 yd^3
46) 615 mi^3
47) 216 cm^3

Point – Score Video Game Design

1. Full credit: 1 point
   - Student writes the coordinate (14, 5) or equivalent

2. Full credit: 1 point
   - Student provides justification for disagreeing with the claim.
     - Translation only moves the *y* coordinate. Location should be (17,20)
     - OR student states mistake was in adding 3 to the x-coordinate
     - OR provides a correct mathematical reason to disagree not necessarily providing the new coordinate
     - OR if student uses coordinate from Question 1, then location is (14, 8)

3. Full credit: 1 point
   - Student provides equation x = 10 or equivalent

4. Full credit: 1 point
   - Student provides justification for disagreeing with the claim.
     - Rex will be reflecting and not translating, therefore no part of his body will touch the fire.

5. Full credit: 3 points
    - Student describes a series of translations, rotations and/or reflections that satisfies all three of the game rules.

    Partial credit: 2 points
    - Student describes a series of translations, rotations and/or reflections that satisfies 2 of the three game rules.

    Partial credit: 1 point
    - Student describes a series of translations, rotations and/or reflections that satisfies 1 of the three game rules.