



## **Team Problem Solving Challenge**

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**April 7, 2017**

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**DO NOT BEGIN UNTIL YOU ARE INSTRUCTED TO DO SO.**

All teams will participate in this Team Problem Solving Challenge. Each team will be given a set of 10 problems to solve within 45 minutes. Team members may work together in any way to solve the problems. Team members may talk during this section of the competition. The use of calculators is allowed, and calculations may also be done on scratch paper. All answers must be complete and legible. If the answer is expressed in common fraction, reduce the fraction to lowest terms. When all ten problems are complete, the team captain will raise a hand for a runner to get the answer sheet. The runner will bring the answer sheet to one of the judges. The judges will check the answers. If incorrect, the answer sheet will be returned to the team. Each team has at most 3 checks from the judges within the 45-minute limit. At the end of the challenge, all answer sheets will be collected. Each correct answer is worth 2 points, and the team challenge score will go toward to the team overall score, which also includes individual score.

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1. Jamal's Pie Shop recorded the number of pies sold today. Based on this data, how many coconut cream pies will be sold if Jamal expects to sell 18 pies tomorrow?

1. \_\_\_\_\_

<b>Pie Flavor</b>	<b>Count</b>
Lemon meringue	2
Peach	1
Chocolate cream	6
Blackberry	1
Coconut cream	2

2. Three times a number increased by ten is equal to five less than six times the number. Find the number.

2. \_\_\_\_\_

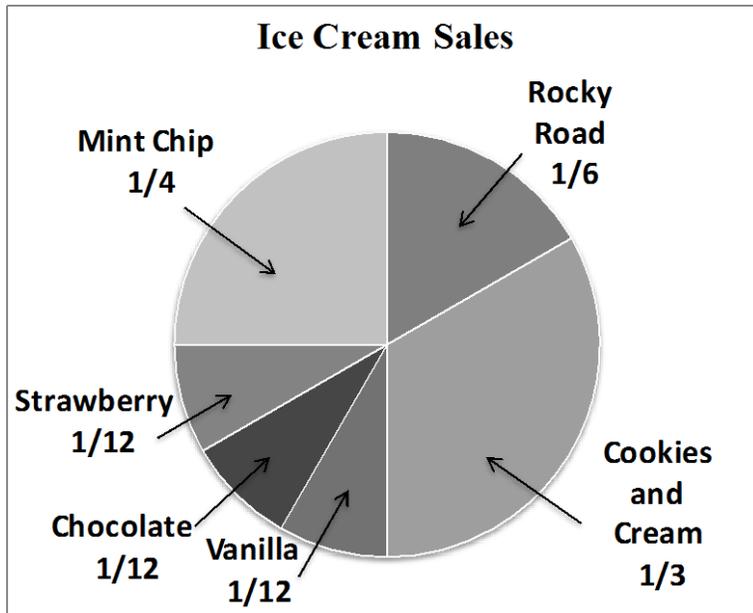
3. Write the next number in the pattern:

8, 16, 12, 24, 20, \_\_\_\_\_

3. \_\_\_\_\_

4. An ice cream shop in Rochester sells a variety of different flavors and keeps track of its weekly sales. The ice cream shop served a total of 84 scoops. How many more of those scoops were mint chip than chocolate?

4. \_\_\_\_\_



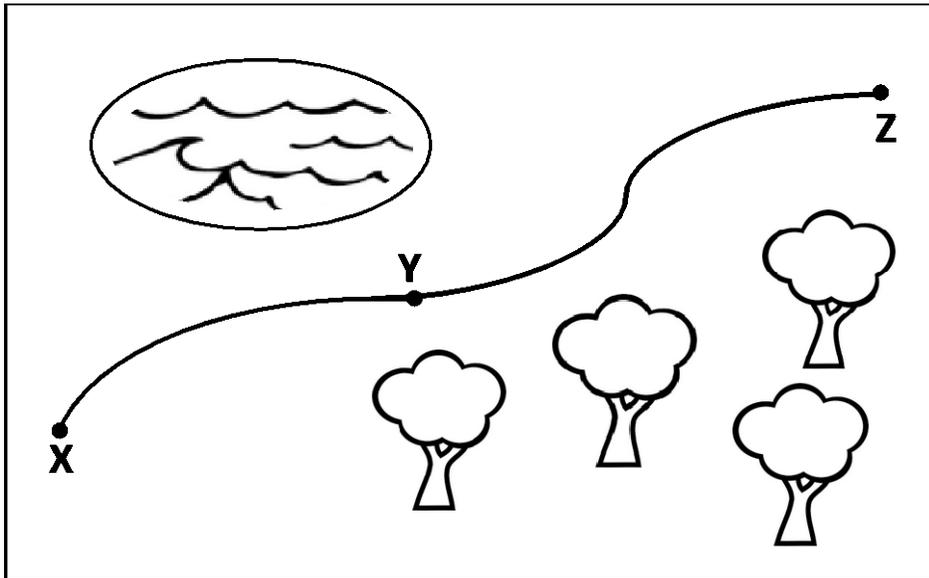
5. Mrs. York took her four children to a restaurant. She and her children ordered two large pepperoni pizzas and five medium sodas. Based on the menu, how much did Mrs. York spend at the restaurant?

5. \$ \_\_\_\_\_

Menu		
Item	Medium	Large
Vegetarian Pizza	\$3.75	\$4.50
Pepperoni Pizza	\$4.50	\$5.25
Soda	\$2.50	\$3.25

6. Points X and Z on a map are 12 km apart if you follow the path. A troop of girl scouts leaves at 11:00 am. They are all carrying packs and travel 3 km per hour until they reach point Y at 12:45 pm. If they want to reach point Z by 2:00 pm, how fast will they have to go?

6. \_\_\_\_\_ km/h



7. NTID is located 5 miles south of Rochester. Rochester is located 12 miles east of Brockport. Find the shortest distance between Brockport and NTID.

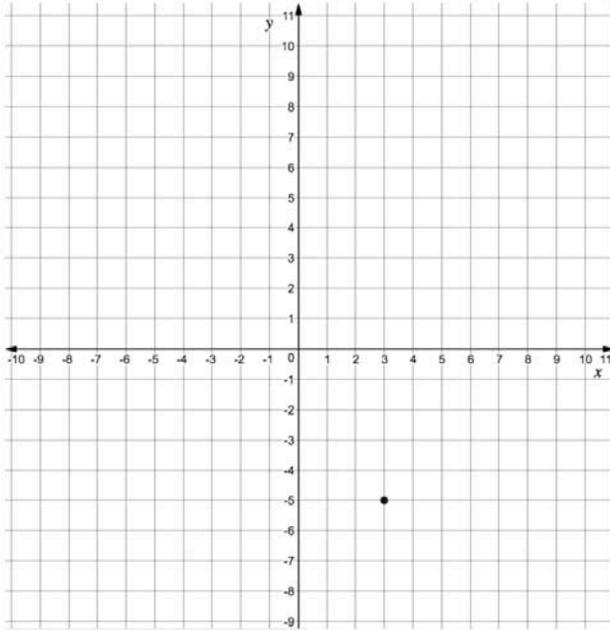
7. \_\_\_\_\_ miles

8. A line with a slope of -8 passes through the points (9, 8) and (10, y). What is the value of y?

8. \_\_\_\_\_

9. The point  $R$  is rotated 90 degrees clockwise around the origin. What are the coordinates  $(x, y)$  of the resulting point,  $R'$ ?

9. \_\_\_\_\_



10. The base of the house is 32 feet, the left side of the house is 26 feet, the right side of the house is 26 feet, and the height of the roof is 20 feet. Each window is 24 inches by 18 inches, and the door is 36 inches by 84 inches. Find the total shaded area in square feet.

10. \_\_\_\_\_ sq. ft

