# Scoring Instructions: 08/01/16, Math Gr 4 FAIM 2016 Form 2-A

7. The table below shows the populations of five towns.

Town	Population
East Town	97,431
Forest View	13,116
Woodson	5,128
Bartelsburg	156,985
Crossville	101,815

Three of the towns in the table above are located in a single fire department district. The sum of the populations of these three towns is 212,362 people. What are the three towns in this fire department district? Explain the strategy you used to find the answer.

#### **Scoring Instructions:**

## Scoring Rubric

- Work demonstrates a clear and complete understanding of the mathematical concepts and/or procedures required by the task. Appropriate strategy is shown with clear and complete explanations and interpretations.
- 1 Response demonstrates a partial understanding of the mathematical concepts and/or procedures. Appropriate strategy is shown, but explanation or interpretation has minor flaws.

OR

Response is incorrect because of calculation errors. Work and strategy indicate a clear understanding of the mathematical concepts and/or procedures required by the task.

O Response is irrelevant, inappropriate, or not provided.

# SCORING EXEMPLAR

Maximum Points - 2

Correct answer - [1 point]

The three towns are East Town, Crossville, and Forest View.

Supporting work and/or explanation – [1 point]

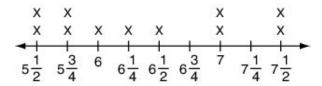


- A variety of strategies may be used to find the answer, including estimation, guess and check using exact calculation, or working backwards by subtracting.
- The populations of East Town and Crossville are each about 100,000 people. Combined, they total about 200,000. The population of Forest View is about 13,000. So, 100,000+100,000+13,000=213,000. This total is close to the actual total of 212,362.

or equivalent work or explanation.

**8.** Kenneth measured the distances he jumped as he practiced the long jump. Kenneth made 11 jumps. He recorded the distance of each jump on this line plot.

# **DISTANCE JUMPED (IN FEET)**



What is the difference, in feet, between Kenneth's longest jump and his shortest jump?

#### **Scoring Instructions:**

9. The Murphys are taking a summer road trip. They will be traveling a total of 2,048 miles over 7 days, and they want to divide the miles as evenly as possible across the 7 days. How many whole-number miles will they need to drive on each of the 7 days, and how many miles will be left over?

#### **Scoring Instructions:**

They must drive 292 miles each day.

There will be 4 miles left over.

Or equivalent work.

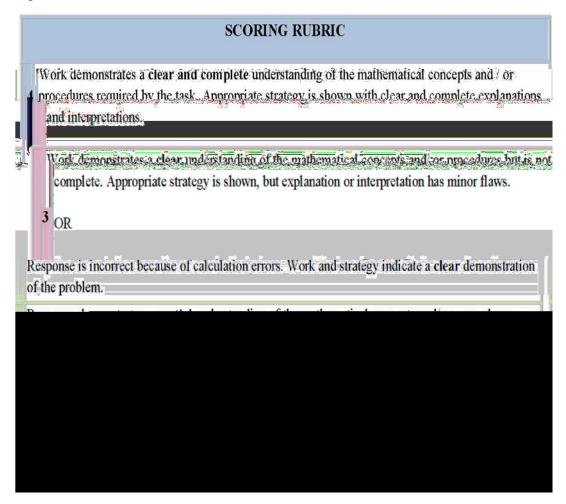
12. At 12:00, the minute hand on the clock points to the number 12. As the minute hand moves to the number 1, it passes through an angle of .



Part A. How many degrees will the minute hand pass through if it moves from the 1 to the 6 on the clock? Show your work or explain how you got your answer.

Part B. Using the information you were given and the information from your answer to Part A, explain how you would determine the number of degrees the minute hand would pass through as it moves from 12 to 8.

#### **Scoring Instructions:**



## Maximum Points - 4 points

Part A. 2 points – 1 point for correct solution, 1 point for appropriate supporting evidence 150 degrees (1 point)



The minute hand moves 30 degrees between each pair of consecutive numbers. There are 5 pairs of consecutive numbers between 1 and 6 (1 to 2, 2 to 3, 3 to 4, 4 to 5, 5 to 6). If you multiply 30 times 5 you get 150. **(1 point)** 

### Part B. 2 points

To determine the number of degrees the minute hand would pass through from 12 to 6, you add 30 (the degrees from 12 to 1) and 150 (the degrees from 1 to 6) and 60 (the degrees from 6 to 8).

18. Quentin, Yusef, and Rachel each have their own aquarium. Each aquarium holds exactly 12 liters of water. Quentin fills – of his aquarium with water. Yusef fills his aquarium with 9 liters of water.

Part A. Draw a fraction model to compare the amount of water Quentin and Yusef each have in their aquariums.

Part B. Rachel is using bottles of water to fill her aquarium. Each bottle holds exactly 2 liters of water. How many bottles of water will Rachel need to fill – of her aquarium? Explain your answer.

Place an "X" in the answer box below.

Answer the question on the Response Document provided.

Click next.

#### **Scoring Instructions:**

### Scoring Rubric

- Work demonstrates a clear and complete understanding of the mathematical concepts and/or procedures required by the task. Appropriate strategy is shown with clear and complete explanations and interpretations.
- Work demonstrates a clear understanding of the mathematical concepts and/or procedures but is not complete. Appropriate strategy is shown, but explanation or interpretation has minor flaws.

OR

Response is incorrect because of calculation errors. Work and strategy indicate a clear demonstration of the problem.

2 Response demonstrates a partial understanding of the mathematical concepts and/or procedures. Appropriate strategy is shown, but explanation or interpretation has minor flaws.

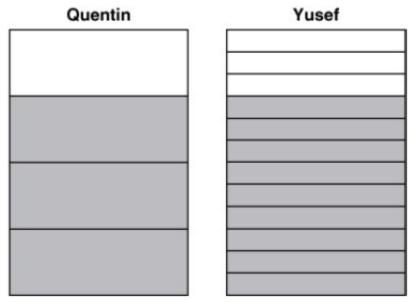
- 1 Response shows minimal understanding of the mathematical concepts and/or procedures or provides no explanation or interpretation for the solution or shows major flaws.
- O Response is irrelevant, inappropriate, or not provided.

# SCORING EXEMPLAR

Maximum Points - 4

Part A – [2 points]

Correct models - 1 point



# Correct comparison - 1 point

Quentin and Yusef have the same amount of water in their aquariums.

Or equivalent work

# Part B – [2 points]

# Correct work – 1 point

The aquarium holds 12 liters. First, calculate out how many liters – of the aquarium is.

- - —
- 6 times 2 is 12 and 5 times 2 is 10. So, which means that Rachel needs to fill her aquarium with 10 liters of water.

# Correct work – 1 point

If each bottle is 2 liters, she will need 5 bottles to fill the aquarium with 10 liters of water because .

or equivalent work

20. What symbol will make this comparison true?

0.38 🗆 0.7

## **Scoring Instructions:**

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