6TH GRADE
Math Transition Benchmark
QUESTIONS 1-3

Problem:

The soccer team at your school is playing their final away game of the season. Just before leaving for the game, the coach realizes that OH NO! Nobody filled the water bottles! The team has 24 individual water bottles that look like this.

Angela and Peter volunteer to fill up the bottles and they find two different faucets to use. The problem is, the faucets pour water at different rates and they are trying to figure out which one is pouring faster. After filling a few bottles, this is the information you know.

Angela’s faucet can fill 2 water bottles in 2 minutes 14 seconds.
Peter’s faucet can fill 3 water bottles in 3 minutes 15 seconds.

Questions:

#1: Angela has 4 empty water bottles. How long will it take Angela to fill these 4 water bottles?

Your answer

#2: Whose faucet pours water faster?

- Angela’s faucet pours water faster.
- Peter’s faucet pours water faster.

#3: Explain to the team how you figured out which faucet is pouring water faster. Be sure to write a convincing explanation so that they can understand your thinking.

Your answer
Your Aunt Karen is shopping for flower pots at the local garden store. She has selected the type of pots shown below.

2 Pots = 24 cm
4 Pots = 32 cm

Questions:

#4: What is the height of one pot, in centimeters?

Your answer

#5: Explain how you figured out the height of one pot.

Your answer
Allison went for a hike. A guide told them that when they reached the giant oak tree they would have completed 80% of the hike. When Allison reached the giant oak tree she had walked 16 kilometers.

Question:

#6: How many kilometers does Allison have left in the hike?
#7: A rectangular park has an area of 1/2 square miles. The length of the park is 4 miles. What is the width of the park in miles?

Your answer
Problem: Geri is saving up money to buy 10 soccer balls for a neighborhood soccer tournament. He started with $5 and each week his grandmother gives him $3 to mow the lawn.

Question: #8: Select ALL expressions that represent the amount of money Geri will have after n weeks.

- $10 + 5n$
- $5 + 3n$
- $10 - 5n + 3$
- $10 - (5+3)n$
- $3n + 5$
Problem:
Maria has a recipe to make sparkling lemonade that uses 4 cups lemon juice, 2 cups of sugar, and 5 cups soda water. Maria has $x$ cups of soda water to use to make sparkling lemonade for her family.

Question:
#9: How many cups of lemon juice will Maria need if she uses $x$ cups of soda water?

Your answer
QUESTION 10-11

Mathematical domain(s) featured in these problem:
-Procedures/Routine Problem Solving

#10: What is 40% of 80?

Your answer

#11: What value of x makes the following equation true? 40 = 8x

Your answer
QUESTION 12

Mathematical domain(s) featured in these problem:
-Procedures/Routine Problem Solving

Monica drew this tape diagram to represent a problem from her math textbook.

\[ \begin{align*}
&\text{x} & &\text{4.2} \\
&\text{10.7} \\
\end{align*} \]

#12: Select ALL the equations represented by Monica's tape diagram above.

☐ 4.2 + x = 10.7
☐ 10.7 + 4.2 = x
☐ 10.7 = x + 4.2
☐ 10.7 - 4.2 = x
☐ x - 4.2 = 10.7
QUESTION 13-14

Mathematical domain(s) featured in these problem:
- Procedures/Routine Problem Solving

Five dogs had the following weights (in kg):

<table>
<thead>
<tr>
<th>Dog 1</th>
<th>Dog 2</th>
<th>Dog 3</th>
<th>Dog 4</th>
<th>Dog 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>4</td>
<td>16</td>
<td>10</td>
<td>4</td>
</tr>
</tbody>
</table>

#13: What is the median weight (in kg) of the five dogs?

Your answer

#14: Write an example of a temperature that is below zero degrees Celsius and warmer than -20 degrees Celsius.

Your answer