### Task 1: Mixing Paint

<table>
<thead>
<tr>
<th>Student Task</th>
<th>Use ratios and percents to solve a practical problem involving the mixing of paint.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Idea 1 Number and Operations</td>
<td>Understand number systems and ways of representing number, relationships, and number systems.</td>
</tr>
<tr>
<td></td>
<td>• Develop, analyze and explain methods for solving problems involving proportional reasoning, such as scaling and finding equivalent ratios.</td>
</tr>
<tr>
<td></td>
<td>• Understand the meaning and effects of operations with rational numbers.</td>
</tr>
<tr>
<td></td>
<td>• Develop and use strategies to estimate the results of rational number computations, and judge the reasonableness of results.</td>
</tr>
<tr>
<td></td>
<td>• Work flexibly with fractions, decimals, and percents to solve problems.</td>
</tr>
</tbody>
</table>
Mixing Paints

This problem gives you the chance to:

• use ratios and percents in a practical situation

Wayne is mixing paint.

He makes six quarts of brown paint by mixing equal quantities of yellow paint and violet paint. The violet paint is made from one-third red paint and two-thirds blue paint.

1. How much red paint does he use? _______________ quart(s)

2. How much blue paint does he use? _______________ quart(s)

3. What percentage of the brown paint is made from blue paint? _______________

Explain how you figured it out.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Seventh Grade – 2003
## Mixing Paints

### Test 7 Form A Rubric

The core elements of performance required by this task are:

- use ratios and percents in a practical situation

Based on these, credit for specific aspects of performance should be assigned as follows:

<table>
<thead>
<tr>
<th>Points</th>
<th>Section Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

1. Gives correct answer as:
   
   red = 1 quart

2. Gives correct answer as:
   
   blue = 2 quarts

   **Special case:**
   
   Gives answers \( \frac{1}{5} \) and \( \frac{2}{5} \) (or \( \frac{1}{2} \)) as fractional parts.

3. Gives correct answer as:
   
   **33.3\% (accept 33\%)**

   Gives correct explanation such as:

   - He uses three quarts each of yellow and violet.
   - In 3 quarts of violet there is one quart of red and 2 quarts of blue.
   - The percent of blue = \( \frac{2}{6} \times 100 = 33.3\% \)

   **Accept alternative correct solutions.**

| Total Points | 5 |

---

Seventh Grade – 2003