

Name Jack Date \_\_\_\_\_

1. Solve  $37 \div 2$  using an area model. Use long division and the distributive property to record your work.

1 ten	8 ones	
20 square units	16 square units	1 square unit remaining

$$(20 \div 2) + (16 \div 2)$$

$$= 10 + 8$$

$$= 18$$

$$(18 \times 2) + 1 = 37$$

$$\begin{array}{r} 18 \text{ R}1 \\ 2 \overline{)37} \\ \underline{-2} \phantom{0} \\ 17 \\ \underline{-16} \\ 1 \end{array}$$

2. Solve  $76 \div 3$  using an area model. Use long division and the distributive property to record your work.

2 tens	5 ones	
60 square units	15 square units	1 square unit remaining

$$(60 \div 3) + (15 \div 3)$$

$$= 20 + 5$$

$$= 25$$

$$(25 \times 3) + 1 = 76$$

$$\begin{array}{r} 25 \text{ R}1 \\ 3 \overline{)76} \\ \underline{-6} \phantom{0} \\ 16 \\ \underline{-15} \\ 1 \end{array}$$

3. Carolina solved the following division problem by drawing an area model.

1 ten	3 ones	
40	12	1 square unit

- a. What division problem did she solve?  $53 \div 4$   
 b. Show how Carolina's model can be represented using the distributive property.

$$(40 \div 4) + (12 \div 4)$$

$$= 10 + 3$$

$$= 13$$

$$(13 \times 4) + 1 = 53$$

Solve the following problems using the area model. Support the area model with long division or the distributive property.

<p>4. <math>48 \div 3</math></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">1 ten    6 ones</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">30 square units</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">18 square units</td> </tr> </table> <p style="text-align: center;"><math>(30 \div 3) + (18 \div 3)</math></p> <p style="text-align: center;"><math>= 10 + 6</math></p> <p style="text-align: center;"><math>= 16</math></p> </div>	30 square units	18 square units	<p>5. <math>49 \div 3</math></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">1 ten    6 ones</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">30 square units</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">18 square units</td> </tr> </table> <p style="text-align: center;">1 square unit remaining</p> </div> <div style="text-align: right;"> <math display="block">\begin{array}{r} 16 \text{ R}1 \\ 3 \overline{)49} \\ \underline{-3} \phantom{0} \\ 19 \\ \underline{-18} \\ 1 \end{array}</math> </div>	30 square units	18 square units
30 square units	18 square units				
30 square units	18 square units				
<p>6. <math>56 \div 4</math></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">1 ten    4 ones</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">40 square units</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">16 square units</td> </tr> </table> <p style="text-align: center;"><math>(40 \div 4) + (16 \div 4)</math></p> <p style="text-align: center;"><math>= 10 + 4</math></p> <p style="text-align: center;"><math>= 14</math></p> </div>	40 square units	16 square units	<p>7. <math>58 \div 4</math></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">1 ten    4 ones</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">40 square units</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">16 square units</td> </tr> </table> <p style="text-align: center;">2 square units remaining</p> </div> <div style="text-align: right;"> <math display="block">\begin{array}{r} 14 \text{ R}2 \\ 4 \overline{)58} \\ \underline{-4} \phantom{0} \\ 18 \\ \underline{-16} \\ 2 \end{array}</math> </div>	40 square units	16 square units
40 square units	16 square units				
40 square units	16 square units				
<p>8. <math>66 \div 5</math></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">1 ten    3 ones</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">50 square units</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">15 square units</td> </tr> </table> <p style="text-align: center;">1 square unit remaining</p> <p style="text-align: center;"><math>(50 \div 5) + (15 \div 5)</math></p> <p style="text-align: center;"><math>= 10 + 3</math></p> <p style="text-align: center;"><math>= 13</math></p> <p style="text-align: center;"><math>(13 \times 5) + 1 = 66</math></p> </div>	50 square units	15 square units	<p>9. <math>79 \div 3</math></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">2 tens    6 ones</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">60 square units</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">18 square units</td> </tr> </table> <p style="text-align: center;">1 square unit remaining</p> </div> <div style="text-align: right;"> <math display="block">\begin{array}{r} 26 \text{ R}1 \\ 3 \overline{)79} \\ \underline{-6} \phantom{0} \\ 19 \\ \underline{-18} \\ 1 \end{array}</math> </div>	60 square units	18 square units
50 square units	15 square units				
60 square units	18 square units				

10. Seventy-three students are divided into groups of 6 students each. How many groups of 6 students are there? How many students will not be in a group of 6?

1 ten    2 ones

60 square units	12 square units
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1 square unit remaining

$(60 \div 6) + (12 \div 6)$

$= 10 + 2$

$= 12$

$(12 \times 6) + 1 = 73$

$$\begin{array}{r} 12 \text{ R}1 \\ 6 \overline{)73} \\ \underline{-6} \phantom{0} \\ 13 \\ \underline{-12} \\ 1 \end{array}$$

There are 12 groups of 6 students. 1 student will not be in a group of 6.

