Find 313 \div 2 by drawing a base ten model and by long division.

**Step 1:** Draw a base ten model of 313.

**Step 2:** Divide the hundreds blocks into 2 equal groups.

2 \) 3 1 3

- number of hundreds in each group
- number of hundreds placed
- number of hundreds left over

remaining hundreds, tens and ones

**Step 3:** Exchange the left over hundreds block for 10 tens.

2 \) 3 1 3

- number of tens left over

regroup a hundred as 10 tens

**Step 4:** Divide the tens blocks into two equal groups.

2 \) 3 1 3

- number of tens in each group
- number of tens placed
- number of tens left over

remaining tens and ones

**Step 5:** Exchange the left over tens blocks for 10 ones.

2 \) 3 1 3

- number of ones left over

regroup a ten for 10 ones
Steps 6 and 7: Divide the ones into 2 equal groups.

2 \[ \underline{3} \underline{1} \underline{3} \]

\[ \text{number of ones in each group} \]

\[ \text{number of ones placed} \]

\[ \text{number of ones left over} \]

remaining ones

2. Divide.

a) \[ 5 \underline{7} \underline{8} \underline{6} \]

b) \[ 3 \underline{8} \underline{3} \underline{5} \]

c) \[ 6 \underline{8} \underline{7} \underline{5} \]

d) \[ 8 \underline{9} \underline{9} \underline{5} \]

3. In each question below, there are fewer hundreds than the number of groups. Write a ‘0’ in the hundreds position to show that no hundreds can be placed in equal groups. Then perform the division as if the hundreds had automatically been exchanged for tens.

a) \[ 8 \underline{0} \underline{4} \underline{3} \]

4 tens can be placed in each group.

32 tens have been placed.

2 tens are left over.

b) \[ 5 \underline{4} \underline{7} \underline{2} \]

c) \[ 9 \underline{2} \underline{9} \underline{9} \]

d) \[ 7 \underline{3} \underline{6} \underline{7} \]

4. Divide.

a) \[ 3 \underline{115} \]

b) \[ 4 \underline{341} \]

c) \[ 8 \underline{425} \]

d) \[ 6 \underline{379} \]

e) \[ 9 \underline{658} \]

f) \[ 5 \underline{1525} \]

g) \[ 5 \underline{7523} \]

h) \[ 3 \underline{5213} \]

i) \[ 4 \underline{1785} \]

j) \[ 7 \underline{2213} \]

5. Karen swims 4 laps of a pool. Altogether she swims 144 metres. How long is the pool?

6. The perimeter of a six-sided park is 732 km. How long is each side of the park?
1. How many pennies would each friend receive if you divided 3,000 pennies among ...
   a) 10 friends? __________  b) 100 friends? ________  c) 1,000 friends? ________

2. Continue the pattern.
   a) \(3,000,000 \div 10 = \underline{300,000}\)  
   \(3,000,000 \div 100 = \underline{30,000}\)  
   \(3,000,000 \div 1,000 = \underline{3,000}\)  
   \(3,000,000 \div 10,000 = \underline{300}\)  
   b) \(2,700,000 \div 10 = \underline{270,000}\)  
   \(2,700,000 \div 100 = \underline{27,000}\)  
   \(2,700,000 \div 1,000 = \underline{2,700}\)  
   \(2,700,000 \div 10,000 = \underline{270}\)

3. Describe any patterns you see in question 2.

4. Under which deal do you pay less for each magazine?

   **52 Issues**
   First 4 issues free!  
   $3 for each issue afterwards

   **52 Issues**
   First 12 issues free!  
   $4 for each issue after that

5. Make up two division questions using the numbers in the chart.

<table>
<thead>
<tr>
<th>Number of animal stickers in a pack</th>
<th>Price of a pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>96 cents</td>
</tr>
<tr>
<td>6</td>
<td>78 cents</td>
</tr>
<tr>
<td>7</td>
<td>91 cents</td>
</tr>
</tbody>
</table>

In the questions below, you will have to interpret what the remainder means.

**Example:** Lars wants to put 87 hockey cards into a scrapbook. Each page holds 6 cards. How many pages will he need? \(87 \div 6 = 14 \ R 3\)  
Lars will need 15 pages (because he needs a page for the three leftover cards).

6. 4 people can sleep in a tent. How many tents are needed for 58 people?

7. 6 friends share 83 stickers. How many stickers does each friend receive?

8. A school cafeteria uses 7 loaves of bread each week. In how many weeks and days will the cafeteria use 98 loaves of bread?

9. Esther is moving to a new apartment. On each trip her car can carry 6 loads of boxes. How many trips will she need to make to move 75 boxes?
1. A bus carries 48 students. How many students can 65 buses carry?

2. If three oranges cost 69¢, how much do nine oranges cost?

3. a) Alice is between 20 and 40 years old. Last year, her age was a multiple of 4. This year, her age is a multiple of 5. How old is Alice?
   b) George is between 30 and 50 years old. Last year, his age was a multiple of 6. This year it is a multiple of 7. How old is George?

4. A family travelled in a car for 112 days. Gas costs $126 each week. How much money did they spend on gas?

5. Can a prime number be divisible by 3? Explain.

6. What is the smallest whole number greater than 100 that is divisible by 99?

7. \[ 569 \div 6 \text{ is about 400.} \] What digit could be in the box? Explain.

8. Kim buys cherries at a price of 3 for 10¢ and sells the cherries at a price of 5 for 20¢. How many cherries does she need to sell to make $1.00?
   HINT: What is the lowest common multiple of 3 and 5?

9. 3,360 trees are planted in 6 rows. How many trees are in each row?

10. There are two adults and two children in the Gordon family. The ticket price for a play was $12.50 for adults and $8.50 for children. How much money did the family have to pay for the tickets? If they received $8 in change, what amount did they pay with?

11. Choose a number less than 10 and greater than 0.
    If the number is even, halve it and add one. If the number is odd, double it.
    Again, if the new number is even, halve it and add one. If the new number is odd, double it.

   a) Continue the number snake for the example. What happens?
   b) Investigate which one-digit number makes the longest snake.
   c) Try starting a number snake with a two-digit number. What happens?

   **Example:**
   
   \[
   9 \rightarrow 18 \rightarrow 10
   \]