

Amusement Park I	
Problem wording	<p>Granada has a new amusement park. To get in you have to buy a pass which you can use as often as you like. The pass costs 1 euro.</p> <p>The park has lots of rides. All rides cost 2 euros.</p> <p>Identification of specific cases, recognition of structure and formulation of a conjecture</p> <p>The teacher should introduce the task to the class as a whole and ask the students to solve for specific cases or examples to ensure they understand.</p> <p>a) How much does it cost for a pass into the park and two rides? How did you find the answer?</p> <p>b) How much does it cost for a pass into the park and 10 rides? How did you find the answer?</p> <p>c) How much does it cost for a pass into the park and five rides? How did you find the answer?</p> <p><i>Extra questions</i></p> <p>d) How much does it cost for a pass into the park and three rides? How did you find the answer?</p> <p>e) How much does it cost for a pass into the park and 13 rides? How did you find the answer?</p> <p>f) How much does it cost for a pass into the park and six rides? How did you find the answer?</p> <p>Validating a conjecture</p> <p>Then they should be asked to answer the following questions, individually or in breakout groups.</p> <p>1. How much does it cost for a pass into the park and one ride? How did you find the answer?</p> <p>2. How much does it cost for a pass into the park and four rides? How did you find the answer?</p> <p>3. How much does it cost for a pass into the park and 20 rides? How did you find the answer?</p> <p>4. How much does it cost for a pass into the park and 11 rides? How did you find the answer?</p> <p>5. How much does it cost for a pass into the park and 35 rides? How did you find the answer?</p> <p>6. How much does it cost for a pass into the park and 100 rides? How did you find the answer?</p>

	<p>7. How much does it cost for a pass into the park and one million rides? How did you find the answer?</p> <p>Generalising a conjecture</p> <p>8. One of your classmates says he bought a pass and tells you the number of rides he took. Explain to him how to figure out how much he spent.</p> <p>Exploring the inverse relationship</p> <p>a) If you have 15 euros, how can you figure out how many rides you can take in the park?</p> <p>b) If you have 13 euros, how can you figure out how many rides you can take in the park?</p> <p>c) If you have 29 euros, how can you figure out how many rides you can take in the park?</p> <p>d) If you have a lot of money, how can you figure out how many rides you can take in the park?</p> <p>c) If you have B euros, how can you figure out how many rides you can take in the park?</p>
<p>Purpose</p>	<ul style="list-style-type: none"> • To apply the rule governing the function to specific numerical cases. • To generalise the functional relationship. • To generalise the functional relationship in cases involving an indeterminate quantity.
<p>Suggestions for classroom delivery</p>	<p>Before the teacher introduces the inverse relationship, the whole class should discuss the answers to questions 1 through 8. No symbol is used to allude to an indeterminate quantity in question 8. Students are expected to express themselves freely on the grounds of their prior knowledge. The primary objective is for them to identify the variables (number of rides (x) and euros spent (y)) and the relationship between them ($y=2x+1$) and to be able to relate the representations they use.</p> <p>Other approaches, such as listed below, may be adopted to introduce the task and determine whether students use the relationship to find the answers.</p> <p>Choose a number (_____). If you take that number of rides and you already bought a pass, how much will it cost you? Explain how you found that answer.</p> <p>Another classmate says they have a pass and took (____) rides, and it cost (____) euros. Do you agree? [Both true and false examples should be used.]</p>

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