

8th grade**Task 2****Odd Numbers**

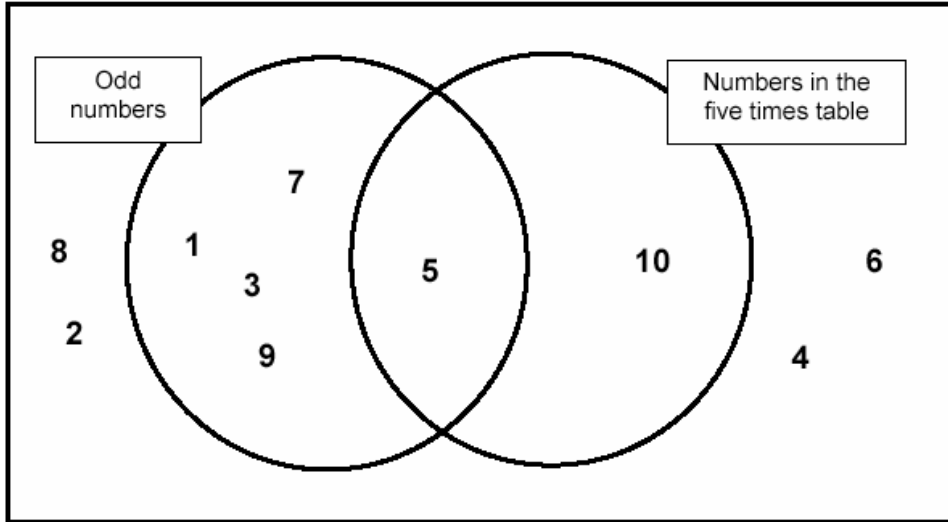
Student Task	Sort numbers into sets and explain the reasoning. Identify examples and counterexamples for statements about odd and even numbers.
Core Idea 1 Number and Operations	Understand number systems, the meanings of operations, and ways of representing numbers, relationships, and number systems. <ul style="list-style-type: none">• Compare and contrast the properties of numbers and number systems including the rational and irrational numbers.
Core Idea 2 Mathematical Reasoning	Solve problems that make significant demands in one or more of these aspects of the solutions process: problem formulation, problem implementation, and problem conclusion. Students communicate their knowledge of basic skill, conceptual understanding, and problem solving. <ul style="list-style-type: none">• Extract pertinent information from situations and figure out and identify what additional information is needed.• Formulate conjectures, and argue why they must be or seem to be true.

Odd Numbers

This problem gives you the chance to:

- sort numbers into sets and explain your choices
 - test statements about odd and even numbers
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The diagram below shows how Sue sorts some numbers.



1. Explain why the number 5 is in the overlap region of the two circles.

2. Write the numbers 11, 12, 13, 14 and 15 in the correct regions of the diagram.

3. Pete says that when you add two numbers that are multiples of 5 you get a number that is a multiple of 10.

(a) Give an example to show that this is **sometimes** true.

(b) Give an example to show that this is **not always** true.

4. Jane says that when you add two odd numbers you **always** get an odd number.

(a) Give an example to show that this is **not** true.

(b) Explain why two odd numbers **always** add to make an even number.

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Odd Numbers	Test 8 Rubric	
<p>The core elements of performance required by this task are:</p> <ul style="list-style-type: none"> • sort numbers into sets and explain your choices • test statements about odd and even numbers <p>Based on these, credit for specific aspects of performance should be assigned as follows</p>	points	section points
<p>1. Gives a correct explanation such as: Because 5 is both an odd number and a multiple of 5.</p>	1	1
<p>2. Writes all five numbers in correct places.</p> <p><i>Partial credit</i> Writes three or four numbers in correct places.</p>	2 (1)	2
<p>3a. Gives a correct example such as: $15 + 25 = 40$</p> <p>3b. Gives a correct example such as: $5 + 10 = 15$</p> <p><i>Partial credit</i> Gives correct pairs of numbers for both a and b without totals.</p>	1 1 (1)	2
<p>4a. Gives a correct example such as: $3 + 5 = 8$</p> <p>4b. Gives a correct explanation such as: An odd number is an even number plus one left over. So when you add two odd numbers the two ones left over make 2 so you have two even numbers plus 2, which is an even number.</p>	1 2	3
Total Points		8