

Name _____

Date _____

Even and Odd Numbers

Determine whether each sum or product will be even or odd. Explain your reasoning.

1. $56,426 + 17,895$

2. $317,362 \times 129,324$

3. $10,481 + 4,569$

4. $32,457 \times 12,781$

5. Show or explain why $12 + 13 + 14 + 15 + 16$ will result in an even sum.

Without solving, tell whether each sum or product is even or odd. Explain your reasoning.

1. $346 + 721$

2. $4,690 \times 141$

3. $1,462,891 \times 745,629$

4. $425,922 + 32,481,064$

5. $32 + 45 + 67 + 91 + 34 + 56$

Determine whether each sum or product will be even or odd. Explain your reasoning.

1. $56,426 + 17,895$

The sum is odd because the sum of an even number and an odd number is odd.

2. $317,362 \times 129,324$

The product is even because the product of two even numbers is even.

3. $10,481 + 4,569$

The sum is even because the sum of two odd numbers is even.

4. $32,457 \times 12,781$

The product is odd because the product of two odd numbers is odd.

5. Show or explain why $12 + 13 + 14 + 15 + 16$ will result in an even sum.

$12 + 13$ will be odd because even + odd is odd.

Odd number + 14 will be odd because odd + even is odd.

Odd number + 15 will be even because odd + odd is even.

Even number + 16 will be even because even + even is even.

OR

Students may group even numbers together, $12 + 14 + 16$, which would result in an even number. Then, when students combine the two odd numbers, $13 + 15$, the result would be another even number. We know that the sum of two evens would result in another even number.

Without solving, tell whether each sum or product is even or odd. Explain your reasoning.

1. $346 + 721$

The sum is odd because the sum of an even and an odd number is odd.

2. $4,690 \times 141$

The product is even because the product of an even and an odd number is even.

3. $1,462,891 \times 745,629$

The product is odd because the product of two odd numbers is odd.

4. $425,922 + 32,481,064$

The sum is even because the sum of two even numbers is even.

5. $32 + 45 + 67 + 91 + 34 + 56$

The first two addends will be odd because even and an odd is odd.

Odd number +67 will be even because the sum of two odd numbers is even.

Even number +91 will be odd because the sum of an even and an odd number is odd.

Odd number +34 will be odd because the sum of an odd and an even number is odd.

Odd number +56 will be odd because the sum of an odd and an even number is odd.

Therefore, the final sum will be odd.