

Disjoint vs. Independence Activity

Events:

Reminder: Single-digit numbers refer to $\{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$

- A Even single-digit numbers
- B Odd single-digit numbers
- C Single-digit numbers less than 4
- D Single-digit numbers greater than 4
- E Multiples of 3 that are single-digit numbers
- F Multiples of 4 that are single-digit numbers
- G Factors of 10 that are single-digit numbers
- H Single-digit prime numbers greater than 2
- I Integers greater than -1 and less than 10

In the first column, identify the events listed as Disjoint or Not Disjoint. Explain why they are disjoint or not disjoint. In the second column, identify the events listed as Independent or Not Independent. Show your formula and work to demonstrate your Test for Independence.

| | Disjoint or Not Disjoint? | Independent or Dependent? |
|-------------------|---------------------------|---------------------------|
| 1. <i>C and D</i> | _____ | _____ |
| _____ | | |
| 2. <i>A and B</i> | _____ | _____ |
| _____ | | |
| 3. <i>C and H</i> | _____ | _____ |
| _____ | | |
| 4. <i>B and E</i> | _____ | _____ |
| _____ | | |
| 5. <i>H and I</i> | _____ | _____ |
| _____ | | |
| 6. <i>G and F</i> | _____ | _____ |
| _____ | | |
| 7. <i>G and B</i> | _____ | _____ |
| _____ | | |
| 8. <i>A and G</i> | _____ | _____ |
| _____ | | |