

# FALSE POSITIVES FALSE NEGATIVES WORKSHEET

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**Purpose:** Improve decision-making by assessing errors in judgment.

1. Define the decision or test.
  2. What would a false positive mean? What are the risks?
  3. What would a false negative mean? What are the risks?
  4. Which error is worse? How can you mitigate it?
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True Positive

False Negative (thinking something is false when it's true)

False Positive (thinking something is true when it's false)

True Negative



# HOW TO USE (PRO TIPS)

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## **Understand the Trade-Offs:**

- Recognize that in many systems (from medical testing to machine learning), lowering false positives may increase false negatives and vice versa.
- Consider the context: in some fields (like healthcare), false negatives might be far more dangerous than false positives.

## **Adjust Thresholds Strategically:**

- In classification or testing systems, adjust decision thresholds or weights to reflect the relative cost of each type of error.

## **Risk Assessment:**

- Perform a cost-benefit analysis to determine which error type is less tolerable given the consequences.
- In critical applications (e.g., fraud detection or safety systems), incorporate multiple layers of testing to reduce the overall error rate.

## **Iterative Improvement:**

- Regularly review system performance and update models or testing protocols based on new data and error rates.
  - Experiment with ensemble methods or additional data sources to help mitigate high false positive or false negative rates.
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