LESSON MAKER PRO

# Data Under Pressure

*Compare accuracy, speed, and security before choosing a tool.*

**HIGH SCHOOL · FM.IP.A.29**

**FM.IP.A.29** "Critically analyze issues related to information processing including accuracy, efficiency, and security."

NAME _____ DATE _____

### CHECK ALL THREE

Find accuracy by dividing the number processed correctly by the total, then change the result to a percent. Find speed by dividing the total by the time. For security, count how many items are exposed, then check each result against the stated requirements.

### WORKED EXAMPLE

A tool processes 48 messages in 12 minutes. It processes 42 correctly and exposes 6. Find its accuracy, speed, and number of messages not exposed.

1. Accuracy: 42/48 = 7/8 = 87.5%.
2. Speed: 48/12 = 4 messages per minute.
3. Not exposed: 48 - 6 = 42 messages.

**Answer: 87.5% accurate, 4 messages per minute, 42 messages not exposed**

## PRACTICE 6 problems

**1** An app processes 20 entries and gets 19 correct. What is its accuracy?

**ANSWER** _____

**2** A scanner checks 70 files in 10 minutes. What is its speed in files per minute?

**ANSWER** _____

**3** An account holds 60 photos. Of these, 15 are public. How many photos are not public?

**ANSWER** _____

**4** A tool sorts 50 records and sorts 40 correctly. What is its accuracy?

**ANSWER** _____

**5** Which tool is more accurate, and by how many percentage points?

**SORTING RESULTS**

| Tool | Correct | Total |
|---|---|---|
| A | 16 | 20 |
| B | 27 | 30 |

**ANSWER** _____

**6** A tool must be at least 90% accurate and expose no messages. Which tool meets both rules? State why.

**MESSAGE RESULTS**

| Tool | Correct | Total | Exposed |
|---|---|---|---|
| A | 36 | 40 | 0 |
| B | 38 | 40 | 3 |

**ANSWER** _____

## APPLY IT Show your work

**1** A school club's tool reviews 80 captions in 20 minutes. It checks 72 correctly and accidentally makes 10 private drafts public. The club requires at least 90% accuracy, at least 3 captions per minute, and no more than 5 public drafts. Which requirements does the tool meet? How many drafts must be made private to meet the remaining requirement?

WORK SPACE

**ANSWER** _____

**2** A gaming club is choosing a voting platform. Each platform must be at least 95% accurate, process at least 4 responses per minute, and expose no more than 3 responses. Which platform meets every rule? Give its accuracy and speed.

**VOTING PLATFORM TEST**

| Platform | Correct | Total | Minutes |
|---|---|---|---|
| PlayerPass | 95 | 100 | 25 |
| TeamLink | 98 | 100 | 20 |

**ANSWER** _____

## CHALLENGE One step up

A student council tests three message tools. Each handles 120 messages. A tool must be at least 95% accurate, process at least 3 messages per minute, and expose at most 2 messages. Which tool meets every rule? Explain why choosing the fastest tool would be a mistake.

**MESSAGE TOOL TEST**

| Tool | Correct | Minutes | Exposed |
|---|---|---|---|
| A | 114 | 30 | 3 |
| B | 117 | 40 | 1 |
| C | 108 | 20 | 0 |

WORK SPACE AND ANSWER

# Data Under Pressure



## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | An app processes 20 entries and gets 19 correct. What is its accuracy? | **95%** |
| 2 | A scanner checks 70 files in 10 minutes. What is its speed in files per minute? | **7 files per minute** |
| 3 | An account holds 60 photos. Of these, 15 are public. How many photos are not public? | **45 photos** |
| 4 | A tool sorts 50 records and sorts 40 correctly. What is its accuracy? | **80%** |
| 5 | Which tool is more accurate, and by how many percentage points? | **Tool B, by 10 percentage points** |
| 6 | A tool must be at least 90% accurate and expose no messages. Which tool meets both rules? State why. | **Tool A. It is 90% accurate and exposes 0 messages; Tool B exposes 3.** |

## PART 2 · APPLY IT

1. **It meets the accuracy and speed requirements. It must make 5 drafts private.** Accuracy is 72/80 = 90%, and speed is 80/20 = 4 captions per minute. To reach the public-draft limit, 10 - 5 = 5 drafts must be made private.
2. **Neither platform can be determined to meet every rule because the number of exposed responses is not given.** PlayerPass has 95% accuracy and processes 4 responses per minute. TeamLink has 98% accuracy and processes 5 responses per minute, but the table gives no exposure counts for either platform.

## CHALLENGE

**Tool B is the only one that meets every rule: it is 97.5% accurate, processes 3 messages per minute, and exposes 1 message. Tool C is fastest at 6 messages per minute, but its accuracy is only 90%.**

For percentage comparisons, accept equivalent calculations that give the stated percentage-point difference. In the second word problem, students should notice that the missing exposure data prevents a final choice.