

# What is Lean Management?

## Worksheet

Lean focuses on identifying and removing 'muda' (waste) from every process: overproduction, waiting, transport, inventory, motion, defects and underutilized talent. Core tools: value stream mapping, 5S (sort, standardize, shine, sustain), kanban, and rapid problem-solving.

## Questions

1. Which is NOT a lean waste?

- A) Overproduction
- B) Long supplier lead time
- C) Waiting
- D) Defects

2. A factory switches to pull-based (kanban) production. Most likely benefit?

- A) Workers work faster
- B) Less overproduction, lower inventory
- C) Machines need no maintenance
- D) Customers pay less

3. Kaizen philosophy assumes

- A) Change is dangerous
- B) Frontline workers have ideas to improve their work
- C) Managers decide all improvements
- D) Perfection is reached

4. A hospital uses 5S to organize the OR (operating room). Biggest benefit?

- A) Fewer surgeries
- B) Faster instrument retrieval, fewer mix-ups, safer environment
- C) Doctors get paid more
- D) Patients heal faster

5. A bakery produces 200 loaves daily but sells only 140. Identify the waste and lean solution.

6. An assembly line has workers standing idle between stations because Station B is slow. How to apply lean?

7. A software team takes 8 weeks to release a feature; 6 weeks is bug fixes (rework). Lean opportunity?

8. Define: What does 'muda' mean in lean?

9. Define: What is kaizen?

10. Define: What does 5S stand for?

## Answer Key

1. B) Long supplier lead time - Long supplier lead time is a constraint, not internal waste (though it drives inventory). The seven wastes are what you can control.
2. B) Less overproduction, lower inventory - Kanban limits production to match demand cuts overstock and frees working capital.
3. B) Frontline workers have ideas to improve their work - Kaizen empowers workers to spot waste and suggest small fixes. Respect for people is core to lean.
4. B) Faster instrument retrieval, fewer mix-ups, safer environment - 5S creates visual order - instruments in standard places, visual labels. Reduces search time and errors.
5. Waste: Overproduction. 60 unsold loaves = wasted ingredients, labor, storage space + potential spoilage. Lean solution: Implement pull-based demand (kanban) - bake only when orders come in. Reduce batch sizes, improve forecast. Result: Lower waste, fresher bread, happier customers, freed-up cash.
6. Problem: Overproduction upstream waiting downstream. Uneven flow. Lean fix: Use a kanban limit card. Station A can produce only if Station B pulls parts. Balance workload so each station finishes about the same time. Result: Smoother flow, less WIP (work in progress), faster cycle time.
7. Waste: Defects causing rework (75% of cycle time). Root cause: rushing code reviews, no automated testing. Lean fix: Pair programming, automated tests, daily standups. Catch bugs early, not after 6 weeks of rework. Result: Fewer defects, faster releases, lower stress.
8. Muda = waste. Any activity that consumes resources but adds no customer value (overproduction, waiting, defects, etc.).
9. Continuous improvement - small, incremental changes by frontline workers. Culture of 'always get better' not 'good enough'.
10. Sort (remove junk), Set in order (organize), Shine (clean), Standardize (written procedures), Sustain (discipline). Creates visual control.

### **Bounlu**

All cards, step-by-step solutions and an AI tutor are in the Notek app.  
Promy turns exam dates into automatic reminders.