Congratulations! You passed!
TO PASS 80% or higher

Keep Learning

GRADE
100%

Lean Principles

LATEST SUBMISSION GRADE
100%

1. In Lean software development, how can **amplifying learning** occur? (Select all that apply) — 1 / 1 point

- [ ] The developers write detailed specifications before writing code.
- [x] The developers make different solutions, each with the exact same features.

Correct
Having multiple options provides additional information that can help you make the right decision. Please watch the "Amplify Learning" video.

- [x] The developers use short iterations.

Correct
Short iterations means faster feedback from the customer. Please watch the "Amplify Learning" video.

- [ ] The developers choose technologies that force them to learn new skills.

2. How can **waste** arise in software development? (Select all that apply) — 1 / 1 point

- [ ] Knowledge about the developers' skills is shared among the team.
- [ ] Required features expected to be developed in a given time period are fully "done".
- [x] Developers work on rarely used product features.

Correct
If product features are rarely used, is it worth spending time building them?

- [x] There are product defects found late in the development.

Correct
Are defects valuable to the customer or are they waste? Please watch the "Eliminate Waste" video.

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3. In Lean software development, what does the principle of "**defer commitment**" mean? — 1 / 1 point

- ( ) Decisions are made to delay the product delivery to a later date
- (•) Decisions are made after having enough information from considering the alternatives.
- ( ) Decisions are made to choose the modern alternative.
- ( ) Decisions are made just before a deadline.

Correct
Please review the "Defer Commitment" video.

4. In Lean software development, what does the principle of "**deliver fast**" mean? (select 2 that apply) — 1 / 1 point

- [ ] Working alternatives are rapidly created.
- [ ] The software product is delivered rapidly via courier.
- [x] Iterations are short, so feedback is frequent, and product evolution is rapid.

Correct
Please watch the "Deliver Fast" video.

- [x] A simpler version of software product (an MVP - Minimum Viable Product) is developed first to reach the market rapidly.

Correct
Please watch the "Deliver Fast" video.

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5. Which of the following align with the lean principle of"**build quality in**"? (select 2 that apply) — 1 / 1 point

- [x] The developers refactor the source code to be simpler and easier to modify.

Correct
A simple design results in fewer defects since code is easier to understand and maintain. Will that improve quality? If you need further review, check out the "Build Quality In" video.

- [x] The developers apply practices to avoid or quickly catch errors while making the software product.

Correct
True.

- [ ] Instead of focusing on refactoring every sprint, certain sprints are dedicated to focus on quality.
- [ ] External inspectors determine whether the software product is high quality.

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6. In Lean software development, what does "**optimize the whole**" mean? (Select all the apply) **1 / 1 point**

- [x] Rather than trying to optimize one part, look at the whole system for optimization opportunities.

  ✓ **Correct**
  Great! Please watch the "Optimize the Whole" video.

- [ ] Leaders look at the whole picture while the other team members only look at the parts of the system.
- [x] The ability of a system to achieve its purpose depends on how well the parts work together, not just how well they perform individually.

  ✓ **Correct**
  Please watch the "Optimize the Whole" video.

- [ ] The whole software product is merely the sum of its individual features.

7. Which of the following tools can help you find **waste** in a process? **1 / 1 point**

- ( ) 5 Whys
- (•) Value Stream Mapping
- ( ) Exploring multiple options
- ( ) Kaizen

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✓ **Correct**
In value stream mapping, you map processes and their duration along with delays between steps. Delays are a form of waiting---one of the 8 forms of waste identified in the "Eliminate Waste" video.

8. What are some of the tools to **amplify learning**? (Select all that apply) **1 / 1 point**

- [x] Set Based Development

  ✓ **Correct**
  Please review to the "Amplify Learning" video.

- [x] Daily Builds and Smoke Tests

  ✓ **Correct**
  Please review to the "Amplify Learning" video.

- [ ] Sustainable development
- [x] Iteration

  ✓ **Correct**
  Please review to the "Amplify Learning" video

9. How do you deliver fast (i.e reduce cycle time) without compromising the quality? **1 / 1 point**

- (•) Minimize the number of items in-process.
- ( ) Finish the work and leave quality for later.
- ( ) Ask people to work overtime.
- ( ) Have people work on multiple things at the same time.

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✓ **Correct**
Great! According to Little's Law, by minimizing the amount of work in-progress and maintaining our throughput (the average completion rate), we can reduce our cycle time.

Another way you might do this is by improving team productivity (increasing throughput) by reducing some types of waste. Increasing quality (reducing defect waste) is one way of doing this. Notice, this does NOT mean to get your team to work overtime! This has a detrimental effect on developers and is likely to result in worsening quality and increased cycle times.

If you are interested in additional strategies for reducing development cycle time, please review the "Deliver Fast" video.

10. "The Last Responsible Moment" is a tool for which Lean Software Principle? **1 / 1 point**

- ( ) See the Whole
- ( ) Deliver Fast
- ( ) Empower People
- (•) Defer Commitment

✓ **Correct**
Last responsible moment means make a choice only when you really need to. Until then keep your options open.

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11. Lean helps increase productivity by: **1 / 1 point**

- Giving staff more work to help create more output.
- Adding additional resources to help decrease the burden of the workload.
- (selected) Reducing the amount of useless activity that our resources (the team members) are currently burdened with.
- Increasing inputs to directly increase outputs.

Correct
Removing useless activity sounds like removing waste. Is that one of the principles?

12. Which practices waste time during software development? (Choose two) **1 / 1 point**

- [ ] The working software is shown to the client, who offers constructive feedback.
- [x] Weekly meetings that are held whether or not they are needed.

Correct
Unnecessary meetings sounds like waste

- [ ] Everyone is aware of the progress through an updated Kanban board.
- [x] Delays in receiving work products.

Correct
What are the 8 type of waste? What the "Waste" video