

Darcy DeClute's Scrum Master CERTIFICATION GUIDE

The Definitive Resource



@scrumtuous



Editors
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Dedication

This book is dedicated to all of my loyal Twitter (X?) friends and followers.

Without your ongoing support, I have no idea where I'd be.

Thanks to every single one of you.

(Everyone except Liz Rowe that is.)

When the student is ready, the teacher will appear.
Tao Te Ching

A note from the author

Hi! I'm Darcy DeClute.

As I write this note I'm filled with a mix of conflicting and confusing emotions that range from humility to pride to embarrassment.

It humbles me to know you're reading this book.

If you're reading a book about certification, you're obviously interested in acquiring a Scrum Master accreditation, which means you're a highly-motivated professional intent on learning, resume building and career advancement.

And you've put your faith in *me* to guide you on a learning journey. That's humbling.

As overwhelming as it is to know you've put your faith in me, I'm equally proud of the book I've written here.

I think this book delivers on what it promises. I think this book will play a key role in getting you past the post when it comes time to sit for the Scrum Master certification exam.

A number of students have read this book and then passed the Scrum Master exam, with a few even garnering a perfect score. I know this book played a key role in their success and I'm confident it will play a key role in your success as well. That makes me beam with pride.

So many people to thank...

I'm also embarrassed when I see this book with my name on the cover, because I feel like an imposter taking the title credit.

When I mentioned to some of my peers and mentors that I wanted to write a Scrum Master certification guide to fill what I thought was a void in the market, my friends encouraged and inspired me.

Some people I follow on Twitter, people like Walker Boh, graciously donated their own free time to proofread, edit, criticize and add corrections. Other peers and mentors added paragraphs and extended the text when they thought a chapter was light or a topic needed clarification.

Some friends helped to generate images with MidJourney prompts and fixed issues with formatting.

So when I see my name on the front cover of this book, I feel as though I'm stealing credit, because this was completely a team effort.

I can't thank the people who helped me get this book past the finish line enough. I love all of you.



Figure 1. At home on native land. Baffin Island, Canada

I'm @Scrumtuuous everywhere!

This book is self-published.

There's an old saying that asserts the biggest problem with self-published books is the person who publishes them. Having read some really low-quality, self-published tripe, I don't completely disagree with that sentiment.

However, since I do self-publish, I have the benefit of being able to make updates and changes at a moments notice.

If you do find something in this book that is unclear, misspelled, confusing or even incorrect, please find me on Twitter or LinkedIn and let me know.

I'm @Scrumtuuous everywhere.

Or better yet, just email me:

darcydeclute@gmail.com

As I mentioned before, people have put a lot of faith in me to help them get certified and drive their career forward. I want to do everything I can to make that possible. Any help you can provide would be appreciated not only by me, but by everyone who reads this book in the future.

Oh, and one last thing. If you do enjoy the book, please leave a 5-star review on Amazon. It would not only put a giant smile on my face, but it would also help to get this book in front of other people who need it.

Thanks again for reading this book. I really hope you enjoy it.

Love Darcy.



Figure 2. Please come find me on Twitter. I'm @Scrumtuuous on all platforms!

Foreword

I felt a little nervous when Darcy asked me to write this foreword.

You see, I'm not the biggest Scrum Master cheerleader in the world.

In fact, in many of the Agile transformations I've led, one of our success metrics is how close we come to making the Scrum Master completely unnecessary.

That's not to say I'm against Scrum. I believe Scrum is the right Agile framework to use when starting a new project.

The role of the Scrum Master

I advocate for Scrum, but I also advocate for teams to evolve to such an advanced level of Agile understanding that they don't really need a Scrum Master.

The role of the Scrum Master is to teach, coach, and mentor others in the ways of Scrum, while acting as a leader who serves as the team goes through an Agile transition.

But here's the thing about transitions: they eventually reach completion.

When an organization truly achieves Agility, the need for a Scrum Master to coach them on cross-functional teams, self-management, and the importance of reviews and retrospectives progressively diminishes. These Agile practices eventually become second nature.

Successful Agile teams don't need coaching on these practices because they naturally incorporate them into their work. It becomes odd for them not to.



Figure 3. Sal Pece, Xennial CEO

Measuring Agile Transformation Success

That's when you know your Agile transformation is a success. That's when you know the team has approached Agile enlightenment.

Of course, you can't do Scrum without a Scrum Master. Scrum without a Scrum Master isn't Scrum.

However, over time, a team's dependence on the Scrum Master should diminish.

At the beginning of an Agile transformation, each development team might require its own dedicated Scrum Master.

Well-coached teams will rely less and less on the Scrum Master for leadership. As Agile transformations succeed, a Scrum Master will divide their time across multiple teams because individual teams become less dependent on their guidance.

Once enlightenment is achieved, a single, underutilized Scrum Master will be shared across multiple teams throughout the organization.

There's a recurring meme in Agile circles that jokes "never ask a Scrum Master what they do, because you'll find out that they don't do much."

I love that meme because it's not only funny but because it should be true if your organization has implemented Scrum correctly. That meme is basically my goal during an Agile transformation.

Keeping Scrum Working

On teams where developers and the Product Owner truly understand how Scrum works, the role of the Scrum Master becomes almost ceremonial. If your teams are building amazing products while the Scrum Master is searching for things to do, you're probably implementing Scrum exceptionally well.

And that's why I was nervous about reviewing this book and contributing a foreword.

I was concerned that this Scrum Master Certification Guide would, like most other books about Scrum, overstate the role of the Scrum Master.

But my nervousness quickly turned into enthusiasm as I turned page after page of this book.

As I read through the text, I felt Darcy was reflecting my thoughts about effective Scrum directly back to me.

Miss DeClute strikes just the right balance between recognizing the importance of the Scrum Master's role within an organization and emphasizing that with highly motivated, self-managed teams, reliance on the Scrum Master accountability should gradually diminish over time.

Darcy gets it right.

Enjoy this certification guide.

It will not only help you pass the Scrum Master certification exam but it will also provide you with a strong understanding of how Scrum *should* work once an enterprise successfully completes an Agile transformation.

Sal Pece
CEO, Xennial Innovations Inc.

Chapter 0: Getting Started

I'm going to get you Scrum Certified. I hope you're ready.

The process is going to go something like this:

- We're going to go through the entire 2020 Scrum Guide together, one line at a time.
- Together we'll extract as much meaning as possible out of the Scrum Guide's words.
- We'll discuss how ideas in the Scrum Guide translate into exam questions.
- We'll iteratively and incrementally test you on what you've learned.

When you've finished this book, my goal is for you to be 100% ready to schedule and pass the exam.



The Scrum Diaries, by Darcy DeClute (@scrumtuuous)

Figure 4. Download and read the official Scrum Guide a few times before reading this book. Read it a few times after reading this book too. The Scrum Guide is the sole source of truth for any Scrum Certification exam.

Forget Everything You Know

If you've ever worked with Scrum in a professional setting and you want to ace the Scrum Master certification exam, the first thing you need to do is forget everything you think you know about Scrum.

- Forget about story points.
- Forget about use cases.
- Forget about poker planning.
- Forget about daily standups.

These concepts have nothing to do with Scrum.

They are never mentioned in the Scrum Guide, and references to them on the certification exam are only there to distract you and trick unprepared test-takers into selecting incorrect answers.

On the Professional Scrum Master certification exam, you'll be tested almost exclusively on concepts within the Scrum Guide. If it's not in the Scrum Guide, it's not a correct answer on the exam.

The definitive source of truth regarding Scrum comes exclusively from the Scrum Guide. That's what we'll cover in-depth during this guide.

But before we get into the nuanced specifics, I wanted to provide my own, unofficial take on what Scrum is. This is how I describe Scrum to people who ask me about it. I think it's a good overview. It lays the groundwork for future, more technical discussions.

So what is Scrum?

Scrum is a lightweight, purposefully incomplete framework that helps development teams get started and keep going.

- Does someone have a product vision?
- Do you have a team of developers who are anxious to get building?
- Are stakeholders champing at the bit?

If that's the case, Scrum says you should start a development Sprint right now.

- Don't waste a lot of time planning because your plans are going to change.
- Don't waste a lot of time designing because your initial designs might not work.

Instead, start developing. Start a development Sprint now.

A development Sprint is a short period of time in which developers focus on building a few important features that will become part of the final product.

A development Sprint can never last more than a month. Make them shorter if you want to minimize risk.

Do a little planning. Do a lot of building.

As I said before, teams shouldn't waste a lot of time planning. However, Scrum doesn't say teams shouldn't plan at all. The very first thing a Scrum Team does when their development Sprint starts is plan.

Not too much time should be spent planning. Never more than 8 hours, and never plan too far into the future. The further you look into the future, the wider the cone of uncertainty becomes. That's why short Sprints are often better than long ones.

During Sprint Planning, the developers talk to the Product Owner about what to build. The Product Owner is the person on the Scrum Team who has the product vision and knows what stakeholders want.

The Product Owner also has an ordered list of features that need to get developed. That's called the Product Backlog.

During planning, Scrum Developers select Product Backlog items they think they can complete before the end of the Sprint.

At the end of Sprint Planning, the developers walk away with:

- A list of features they are going to work hard to complete.
- A plan to get those features finished.
- An overarching Sprint Goal that keeps the team focused.

Then the work begins!

Every workday, the developers meet for a few minutes in something called a Daily Scrum.

- It's not a standup meeting.
- It's not a status meeting.
- The Product Owner and the Scrum Master aren't even supposed to participate.

It's just a chance for the developers to quickly catch up and get the ball rolling again, nothing more.

Incremental Progress Over Time

Every Sprint has to create something useful.

Every Sprint must create something that will become part of the final product.

In Scrum, we call these useful, additive pieces Increments. Products get built incrementally.

At the end of the Sprint, there's a Sprint Review where the Scrum Team gives stakeholders a chance to play around with the new features.

Stakeholders are only shown features that are done - not partially done or almost done, but done.

Technically speaking, stakeholders are shown features that meet the "Definition of Done," which is a quality standard everyone on the project has agreed upon.

Review and Reflect

Product reviews at the end of every Sprint ensure stakeholders get to see what's being developed at least once every month. It keeps everyone in the loop. Feedback loops are an essential part of Scrum.

After the Sprint Review, the Scrum Team holds a Sprint Retrospective where they discuss what worked and what they need to do better.

When the Sprint Retrospective ends, a new Sprint begins, which means another short planning meeting, Daily Scrums, and finally a Sprint Review and Retrospective.

That's why Scrum is said to be iterative. You just keep doing Sprints until the work is done.

And that's Scrum.

It's a simple framework that says:

- Plan, but don't plan too much.
- Work hard at a sustainable pace to develop something usable and valuable.
- Regularly review your work with stakeholders.
- Regularly take time to talk about team dynamics and how to improve things.

And all of this is accomplished by a team that is made up of:

- One Product Owner who defines the Product Goal and manages the Product Backlog.
- The developers who know how to build the product.
- One Scrum Master, who doesn't do much.

The Scrum Master

As Sal Pece said in the foreword, that's sort of an ongoing joke in Scrum - that the Scrum Master doesn't do anything. But the fact is, on a really well-run team, a Scrum Master doesn't have much to do.

The Scrum Master just makes sure Scrum is applied properly.

- They don't manage the team.
- They don't manage the project.
- They don't schedule Zoom calls.
- They don't book conference rooms.

Always be @Scrumtuuous!!!

- They don't manage finances.
- They don't update JIRA tickets.

They just coach teams and organizations on how to properly apply the Scrum framework while behaving as a leader who serves the team. That's the Scrum Master's job.

Scrum describes itself as a simple, lean, incomplete framework, and that's a good description.

Scrum just describes the best practices any team should be doing if they want to work efficiently and effectively.

It may not work for everyone, but everyone should at least give it a try.

Get The Scrum Guide

That's my quick description of Scrum, and I think it's a good one.

Having said that, the Scrum Master certification exam doesn't test you on what I think Scrum is all about, it tests you on what the Scrum Guide says Scrum is all about, which is why I want you to download and print out a couple of copies of the 2020 Scrum Guide.

The Scrum Guide is only 14 pages long, and that includes the cover page, introduction and the table of contents. You won't be destroying a forest by having a couple of printed copies by your side.

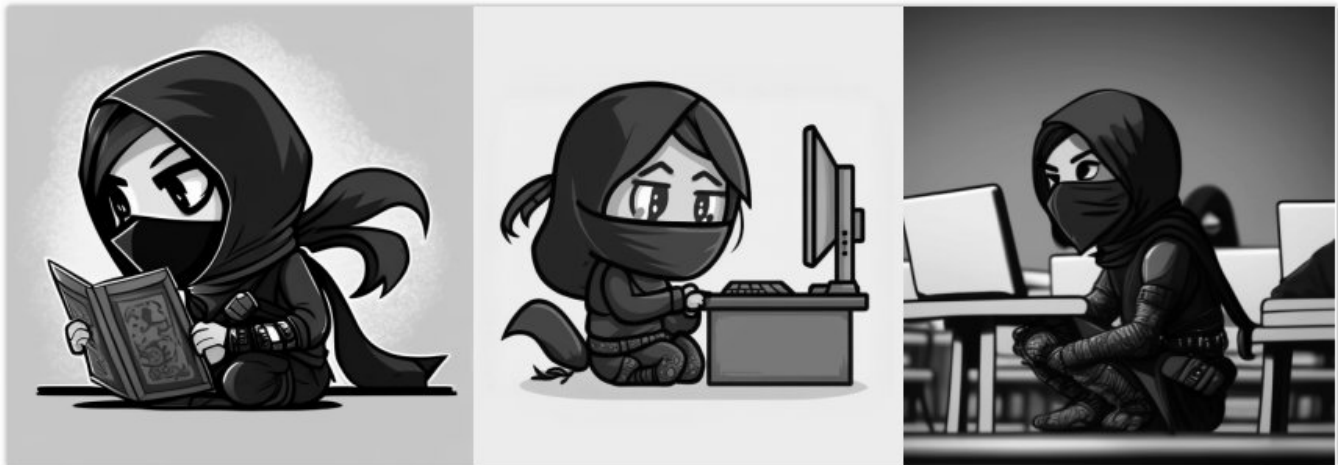


Figure 5. Try to hit as many learning modalities as you can whenever you learn something new.

Grab a highlighter as well and markup that printed copy as we go along. It'll help you learn.

Read the Scrum Guide

Along with downloading it, you should also *read* the Scrum Guide before you dig into the first chapter of this book. In fact, read it a couple of times. That way you'll have a better idea of what phrases like *the Sprint Goal* and *a usable Increment* mean.

With that foundation, we'll be able to dig much deeper into the significance of these interesting and important terms.

Now let's get started with the Scrum Guide!

Chapter 1: What is Scrum?

How would you define Scrum in a single sentence?

To be successful on the Scrum Master certification exam you have to commit to the Scrum Guide's definition of Scrum, which means abandoning the biases and misconceptions you may have adopted over years of seeing Scrum implemented in a less than pure manner.

Here's the 2020 Scrum Guide's first sentence. How well does this definition of Scrum work with the way you previously perceived it? (And I say 'previously', because this is the definition you must 100% commit to right now if you want to pass the Scrum Master certification exam.)

Scrum is a lightweight framework that helps people, teams and organizations generate value through adaptive solutions for complex problems.

— 2020 Scrum Guide page 3

Given what you know about Scrum, and taking into account any experiences you've had with Agile development, how would you rate this definition?



Figure 6. Scrum is a lightweight, incomplete framework that helps teams solve complex problems as they work towards a Product Goal. Scrum advocates downplay the terms 'process' and 'methodology.'

The Definition of Scrum

Whoever crafted that definition tried to make it as general and all-encompassing as possible, almost to the point where the definition doesn't provide much insight.

- The term 'generate value' is very generic
- The term 'complex problems' could apply to anything
- The term 'adaptive solutions' sounds like marketing gibberish

But this is the definition we have, and this is the definition you will be tested on, so commit to it.

The Words Not Spoken

The Scrum Guide say a lot in its brief 14 pages, but sometimes it's more interesting to focus on what the Scrum Guide *doesn't* say. Notice how:

- The official definition of Scrum never mentions software development
- The official definition calls Scrum a *framework*, not a process or methodology

Given the official definition of Scrum, how would you answer the following question?

Test Yourself

Scrum is a proven software development process.

- ☐ True
- ☐ False

The answer is false. Scrum is not a process, nor does it specifically target software development.

You'll get beaten with a stick if any of the Scrum gatekeepers ever hear you call Scrum a process or a methodology. Scrum is a lightweight, incomplete framework.

- Scrum is not a process.
- Scrum is not a methodology.
- Scrum is purposefully incomplete.

Scrum doesn't try to solve all of your project management problems. It just helps you to get started, to keep going and to minimize risks along the way.

NOTE

While the authors of the Scrum Guide both signed the Agile Manifesto, the word *Agile* never appears once in the 2020 Scrum Guide.

Scrum is a Framework

Feel free to debate whether you believe Scrum is a process or a methodology on Twitter or in your favorite online forum. I know I have. On the Scrum Certification exam? Scrum is a framework.

The stewards of the Scrum framework have also worked hard to position Scrum as a tool that can be applied in a variety of industries, not just software development.

If you ever see an option on the certification exam that asserts Scrum works exclusively in the domain of software development, avoid it, because it's wrong.

Test Yourself

Here's the type of trick question you'll see on the Scrum Certification exam that attempts to trip you up on the incorrectly held belief that Scrum is only used in software development:

Scrum is a lightweight framework used exclusively by software development teams to generate value through adaptive solutions to complex problems.

- ☐ True
- ☐ False

The answer is false because the question implies that Scrum is only applicable in the world of software development.

There is a big push in the Scrum community to gain acceptance outside of software development. Any certification questions that pigeonhole Scrum into a software development box will be wrong.

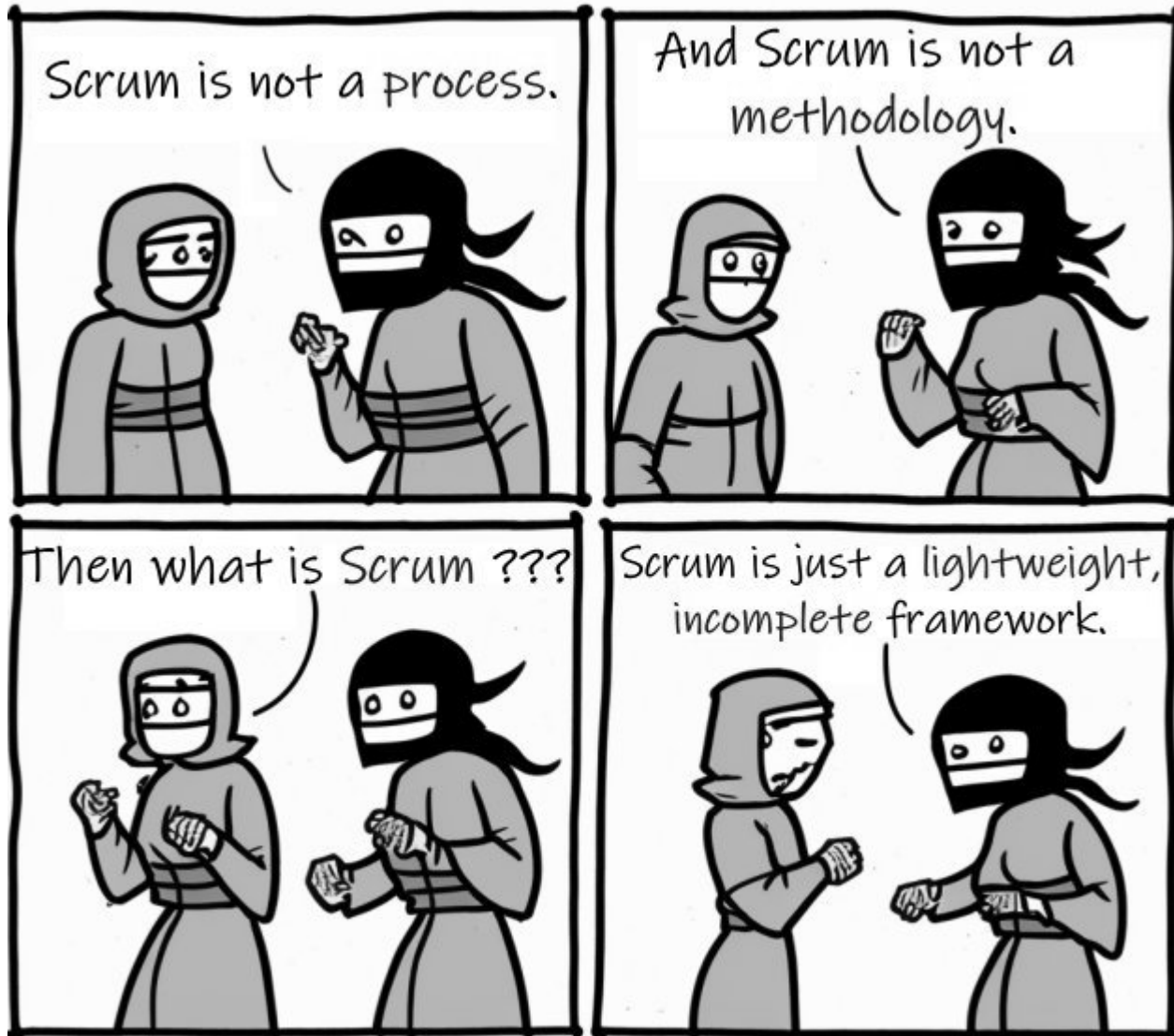
Test Yourself

Which one of the following statements most accurately reflects the definition of Scrum?

- ☐ A) Scrum is a software development methodology
- ☐ B) Scrum is an Agile process for teams and organizations to follow
- ☐ C) Scrum is a lightweight framework to help teams tackle complex problems
- ☐ D) Scrum is a lightweight framework to help teams and organizations build software

Option C is correct.

Scrum is a "lightweight framework that helps people, teams, and organizations generate value through adaptive solutions for complex problems." References to Scrum being a *methodology* or a *process* will always be a wrong option on the Scrum Certification exam. It's not just about software either.



Scrum and the Scrum Master

Here's the Scrum Guide's high-level overview of how Scrum is supposed to work, along with a quick note about the role the Scrum Master plays in keeping Scrum working.

In a nutshell, Scrum requires a Scrum Master to foster an environment where:

1. A Product Owner orders the work for a complex problem into a Product Backlog.
2. The Scrum Team turns a selection of the work into an Increment of value during a Sprint.
3. The Scrum Team and its stakeholders inspect the results and adjust for the next Sprint.
4. Repeat

— 2020 Scrum Guide page 3

Don't Overstate the Role of the Scrum Master

The name 'Scrum Master' sounds intimidating and authoritative.

People think that since the term 'master' is in the name, the Scrum Master controls everything.

They don't. The Scrum Master controls very little. In fact, the word 'control' is antithetical to what the Scrum Master is all about.

The Scrum Master's only real job is to coach people on how Scrum works, or as this paragraph states, 'foster an environment' where Scrum's iterative set of steps are performed.

Scrum is Simple, Pragmatic and Lean

People tend to overthink Scrum.

People think there are a bunch of rules they have to follow if they want to use Scrum. The fact is, there are very few rules in Scrum. The brevity of the Scrum Guide is proof of that.

Scrum is pretty simple, and when problems arise, it's pretty pragmatic too.

Scrum is simple.

Try it as is and determine if its philosophy, theory, and structure help to achieve goals and create value.

The Scrum framework is purposefully incomplete, only defining the parts required to implement Scrum theory.

Scrum is built upon the collective intelligence of the people using it.

Rather than provide people with detailed instructions, the rules of Scrum guide their relationships and interactions.

— 2020 Scrum Guide page 3

Test Yourself

Which of the following statements are true about the Scrum framework?

(Choose 2)

- ☐ A) Scrum describes an iterative process
- ☐ B) Scrum is an iterative framework
- ☐ C) Scrum generates value by repeatedly delivering usable increments to the stakeholders
- ☐ D) Scrum only allows stakeholders to inspect progress when the final product is delivered

Options B and C are correct.

Scrum describes a set of steps that are to be repeated again and again. That makes Scrum *iterative*. But Scrum's an iterative *framework*, not an iterative *process*. So Option B is correct while Option A isn't.

Scrum is also an incremental framework, which means it constantly tries to deliver something tangible and of value to the client at the end of every Sprint. That way the stakeholders can regularly give feedback. If there's an issue, the Scrum Team can then adapt.

That's in stark contrast to what is known as the Waterfall model where the client gets a complete product at the end of a long development cycle. So Option C is correct while Option D is wrong.

It's a Guide. It's not an Instruction Manual

People often look to the Scrum Guide for definitive answers to things. The Scrum Guide doesn't contain many definitive answers.

It's a guide, not a rulebook.

The Scrum Guide even promises *not* to be heavy on rules, saying that it promises *not* to 'provide people with detailed instructions.'

There are very few actual rules in the 14-page Scrum Guide. Outside of the few rules Scrum does have, the framework encourages people to discover strategies that work best for them.

TIP

It often helps to think about certification exam questions outside of the domain of software development. Reframe an exam question in terms of an isolated team building a shelter on a deserted island and answers may become more clear.

Test Yourself

Scrum is a complete and proven framework that helps teams achieve goals and create value.

- ☐ True
- ☐ False

This is false. Scrum self-identifies as a *purposefully incomplete* framework.

This fact seems counter-intuitive to many. After all:

- Why would anyone want to use an incomplete framework?
- Wouldn't a complete framework be better?

The incomplete nature of Scrum is actually what makes it so attractive. Scrum provides only enough direction to be useful, but not so much direction that it is restrictive. Scrum teams are given all the leeway they need to find the processes and frameworks that work best for them.

Exposing Efficacy

One of the funny things about Scrum is that because it's so simple, it can expose practices and processes that are wasteful and non-productive. It also allows developers to focus on the practices that make them most productive.

Various processes, techniques, and methods can be employed within the framework.

Scrum wraps around existing practices or renders them unnecessary.

Scrum makes visible the relative efficacy of current management, environment, and work techniques so that improvements can be made.

— 2020 Scrum Guide page 3

Since Scrum is a framework, not a process, other processes can be used within it.

Combine the Scrum Framework with other Processes

For example, people often think Kanban is a competitor to Scrum, but there is nothing that says Scrum and Kanban can't be used together.

If you're not familiar with Kanban, don't worry. Kanban is never mentioned in the Scrum Guide, and for the Scrum Master certification exam, all you need to know is that it's an alternate development strategy.

Test Yourself

Scrum can be used alongside various processes and methodologies including Kanban and Lean.

☐ True

☐ False

This is true.

Scrum is not a process nor is it a methodology, and because of that, it can be used in conjunction with a variety of popular methodologies like Kanban and Lean.

The Scrum Certification Exam will not test you on the intricacies of Lean Manufacturing or Kanban. It's sufficient just to know that these are two processes commonly used in manufacturing and software development.

TIP

Waterfall gets its name from the fact that isolated development phases like planning and design flow into each other, in only one direction, just like water in a waterfall.

Test Yourself

When implemented properly, Scrum has the capacity to expose ineffective management.

- ☐ True
- ☐ False

This is true.

The iterative and incremental nature of Scrum, where constant inspection and adaptation is encouraged, will shine a light on ineffective practices that happen external to the Scrum Team.

That's what the Scrum Guide means when it says "Scrum makes visible the relative efficacy of current management, environment, and work techniques so that improvements can be made."

And with that question answered, we're done with the definition of Scrum.

Now on to a little overview of what Scrum theory is and what it's based on.

Chapter 2: Scrum Theory

Scrum boasts of being built around the concepts of 'empiricism and lean thinking.'

The subject of 'empiricism' is one of the 13 groups into which questions on the Scrum Master certification exam are categorized, so pay special attention to the concept.

Scrum is founded on empiricism and lean thinking.

Empiricism asserts that knowledge comes from experience and making decisions based on what is observed.

Lean thinking reduces waste and focuses on the essentials.

— 2020 Scrum Guide page 3

Rationalists vs Empiricists

Rationalists say knowledge is best derived through reason, logic and deduction. Mathematics is a very *rational* pursuit.

Empiricists say evidence acquired through experience and experimentation is a better way to solve a puzzling problem.

Pragmatists sit somewhere in the middle and can't make up their mind as to which approach is better.

I actually consider myself a bit of a pragmatist, but when it comes to solving complex problems, Scrum wants nothing to do with wish-washy pragmatism. :)

Scrum is founded upon the concepts of *empiricism* and *lean thinking*.

In the context of Scrum, empiricism means understanding the situation you are in based on knowledge, experimentation, experience, and verifiable facts.

Empiricism also ties in tightly with the Scrum Pillars of transparency, inspection, and adaptation. That is, if you can see exactly what is happening (transparency), you can honestly assess your progress (inspection) and based on this real knowledge, you can adapt.

Empirical analysis of your current situation is always a more effective way to approach a complex problem than following a plan written up six months ago, or making decisions based on trendlines on a historical chart.

Empirical Example

Here's a simple example of empiricism versus rationalism to really drive the concept home for you.

Imagine you wanted to know how long it would take for a hockey puck to fall to the ground when dropped from the top of Toronto's CN Tower.

One approach would be to grab a pen and paper, look up the height of the CN Tower, grab Newton's equation for gravity, factor in wind resistance and use the power of math to determine a result.

That's a good approach, but it's very rational. It's not at all empirical.

Scrum Teams place the greatest amount of value on empirical results.

If a Scrum Team wanted to answer this question, they'd have their developers channel their inner *Spiderman* and climb to the top of the CN Tower with a bag of pucks.

They'd drop the pucks from the tippy top and use a timer to see how long it takes for the black, vulcanized rubber to hit the ground.

The developers would then analyze the results of their experiment and come up with a result that was based on what they observed. Making decisions based on what you observe through your six senses is what empiricism is all about.

In Scrum, we want to base our decisions on empirical observations. That's not to say Scrum developers aren't rational or pragmatic.

In fact, taking a pragmatic approach to many question on the Scrum Master exam will help you get closer to achieving a perfect score on the test. But when given the choice to base an important decision based on rational, pragmatic or empirical analysis, Scrum wants you to prioritize empiricism every time.

Lean Thinking

Lean thinking is also a pivotally important *concept* to master if you want to pass any Scrum exam. You don't have to be an expert on *lean manufacturing* practices, but you do have to master the art of *lean thinking*.

The idea of lean thinking comes from productivity enhancements Toyota discovered in the 1950s and 60s. Obviously Toyota was building cars, but the lessons of lean thinking are universal to all product development domains.

Key concepts of lean manufacturing that manifest themselves in the Scrum framework include:

- The idea that all unnecessary steps in a process should be eliminated
- The belief that all work should be tied tightly to a specific outcome or goal
- The insistence that products should not be over-engineered with unnecessary features
- The need for a direct connection with the customer or stakeholder
- The insistence that teams have strong leaders whose priority is to serve their team
- The desire for workers not to be left idle during the production process
- The fact that improvements should be made in accordance with empirical observations

Empiricism and Lean Thinking

Just looking at this list of lean concepts you can see how:

- The Scrum Master role maps to the lean demand that teams have strong leaders
- The Sprint and Product Goals map to the idea that work should be tied to a specific outcome
- Scrum's Sprint Review embraces the ideas of maintaining a tight connection with the stakeholder

Avoid waste and embrace minimalist thinking when you're working on a Scrum project. That's *lean thinking*.

You are guaranteed to get five or six questions about empiricism and lean thinking on the Scrum Master certification exam. They are easy marks if you just understand what 'empiricism' and 'lean thinking' means.

Test Yourself

Scrum theory emphasizes empiricism. That means a decision made by Scrum teams:
(Choose 3)

- ☐ A) Should be based on factual evidence
- ☐ B) Should be based on intelligent assumptions
- ☐ C) Should be based on verifiable observations
- ☐ D) Should be driven by pragmatic speculation
- ☐ E) Should be based on experience

Options A, C, and E are correct.

Empiricism is all about using your experience, your gained knowledge, and verifiable observations (which is sorta the same as 'experience') to make decisions.

Concepts like 'speculation' and 'assumptions' run counter to the concept of empiricism, even if the speculation and assumptions are pragmatic and intelligent.

"In empiricism, knowledge is spoken of as a posteriori, or "from the latter," meaning gained from experience. Simply put, empiricism is the idea that all learning comes from only experience and observations.

The term empiricism comes from the Greek word for experience: empeiria. The theory of empiricism attempts to explain how human beings acquire knowledge and improve their conceptual understanding of the world."

— TechTarget WhatIs Definition, Empiricism

Test Yourself

Which of the following are characteristics of lean thinking?

(Choose 2)

- ☐ A) A focus on waste reduction and efficiency
- ☐ B) A command and control approach to problem-solving
- ☐ C) A minimalist approach that removes unnecessary steps
- ☐ D) A methodology made up of individualized, compartmental steps that flow into each other.

In this case, A and C are correct.

Efficiency, waste reduction, and the elimination of unnecessary steps within a process are all hallmarks of lean thinking.

The 'Command and Control' approach that the military takes is the opposite of the collaborative, lean approach Scrum takes to decision making, so option B is incorrect.

The last option describes the Waterfall methodology, which is the antithesis of the Scrum framework.

Empiricism and lean thinking lay the foundation for the Scrum Framework. Be comfortable with these two terms and understand their basic meaning to score a few easy marks on the Scrum Master certification exam.

Predictability and Risk

Scrum employs an iterative, incremental approach to optimize predictability and control risk.

— 2020 Scrum Guide page 3

This one sentence is a lot to unpack.

Scrum is iterative because it describes a set of steps that get repeated over and over again. The iterative sequence of steps as outlined in the first section of the Scrum Guide are:

1. A Product Owner orders the work for a complex problem into a Product Backlog.
2. The Scrum Team turns a selection of the work into an Increment of value during a Sprint.
3. The Scrum Team and its stakeholders inspect the results and adjust for the next Sprint.
4. Repeat

You just keep repeating this sequence of steps ad infinitum until you either run out of Product Backlog items to work on or the project comes to an end.

The Incremental Nature of Scrum

Scrum is incremental.

"The Scrum Team turns a selection of the work into an Increment of value during a Sprint."

— 2020 Scrum Guide page 3

The idea of Scrum being incremental means that small victories, small units of value, and small pieces of the final product get created and added together slowly over time until the product is finished.

Piece by piece, through the delivery of value added upon value, the product gets built. That's the incremental process.

By getting these small increments into the hands of stakeholders, and getting immediate feedback from which the Scrum Team can adapt, Scrum reduces risk and allows developers to better service the needs of their clients.

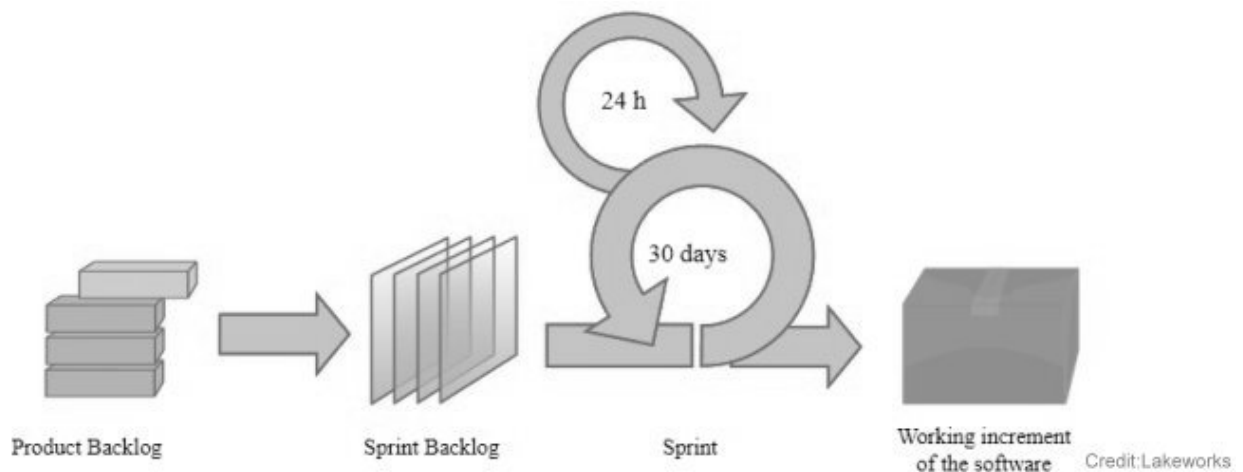


Figure 7. Scrum builds products incrementally through a set of steps that are iteratively repeated throughout the product development lifecycle.(Credit Lakeworks)

Cross-Functional Teams

The idea that teams should be cross-functional and self-managed is a key concept in Scrum, and it's one that you'll be tested on multiple times when you sit for the Scrum Certification exam.

Scrum engages groups of people who collectively have all the skills and expertise to do the work and share or acquire such skills as needed.

— 2020 Scrum Guide page 3

This is another extremely loaded statement.

Understanding this paragraph will go a long way towards properly answering some of the most challenging questions on the Scrum Master certification exam.

Scrum assumes that the Scrum Team has all the skills required to build the product being developed.

- Does your project need testers? Then those people are on the Scrum team.
- Does your project need someone to document the product? That person is on the Scrum team.
- Does your project need an architect? That person is on the Scrum team.
- Does your project need people to do quality assurance(QA)? Then those QA people are developers on the Scrum Team.
- Does your project need a performance or security specialist? Then a person with those skills must be on the Scrum team.

And what if your Scrum team doesn't have those skills? Then your team acquires them.

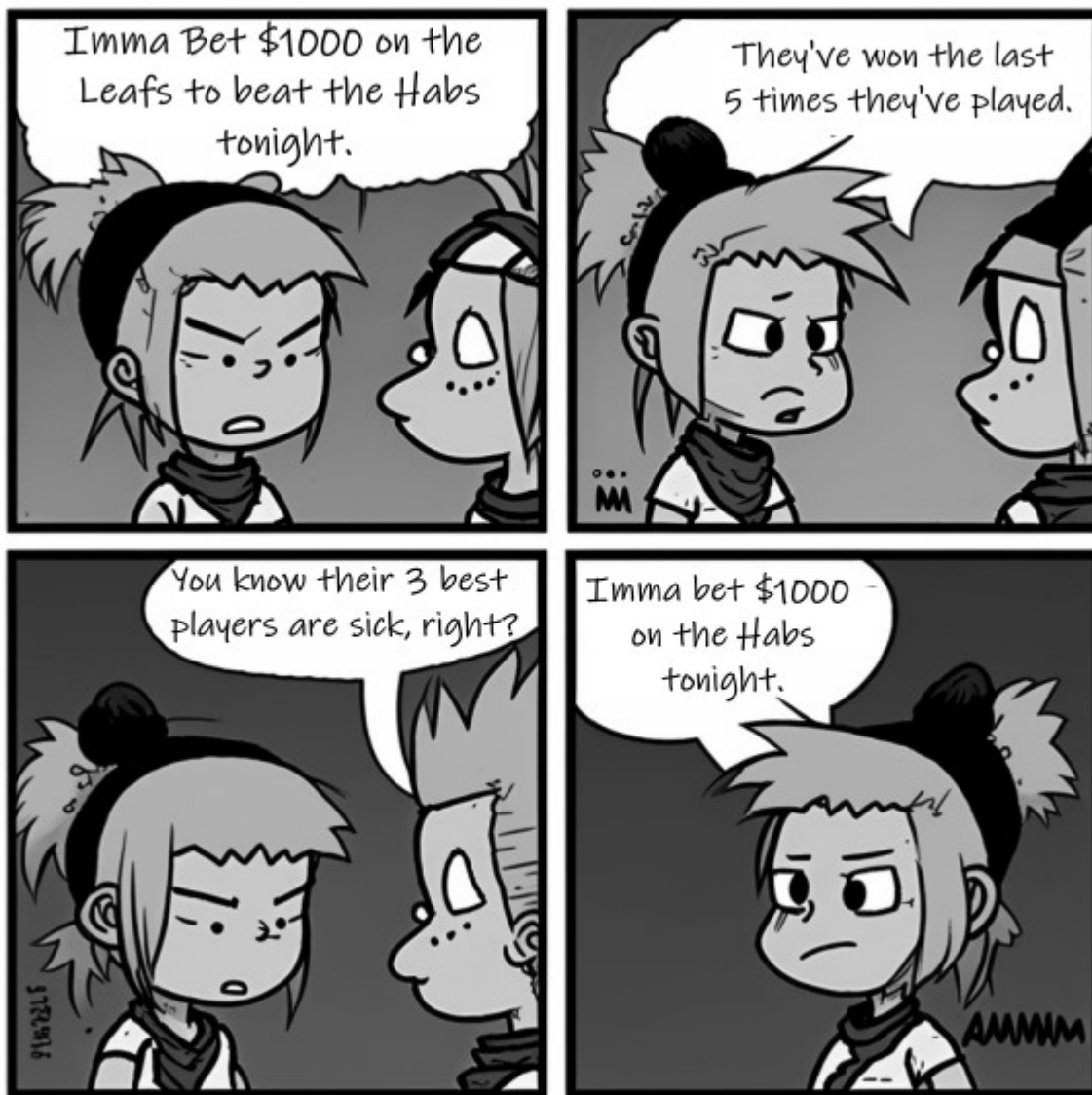


Figure 8. Predictive tools are useful, but they don't replace empirical knowledge acquired through experience and experimentation. Knowledge of pertinent facts should always take priority over charts and trendlines.

Test Yourself

One of the items under development as part of your project is a spaceship to Mars, but nobody on your team knows how to build a spaceship to Mars.

Which one of the following options is the best way for the team to move forward?

- ☐ A) Outsource the development of a spaceship to a third party
- ☐ B) Remove the development of a spaceship from the project's requirements
- ☐ C) Explain to the Product Owner that you don't have the skills to build a spaceship to Mars
- ☐ D) Get the team to start learning about how to build a spaceship to Mars

Option D is correct, and yes, this question is silly to the extreme, but it makes an important point.

According to Scrum, all of the skills required to build a project under development exist on your team, or your team will take it upon themselves to acquire the skills needed. If your team outsources work to a third party, then the work in question is no longer within the control of the team, which means it's no longer part of the Scrum process.

That's what the Scrum Guide means when it says "Scrum engages groups of people who collectively have all the skills and expertise to do the work and share or acquire such skills as needed."

The All-Encompassing Sprint

Scrum combines four formal events for inspection and adaptation *within a containing event*, the Sprint.

— 2020 Scrum Guide page 3

This statement is the source of the most commonly asked trick questions on the Scrum Certification exam, which are:

- Which events happen after the Sprint finishes?
- Which events happen before a Sprint begins?
- When a Sprint ends, when does the next Sprint begin?

Scrum has four timeboxed events that happen within a fifth Scrum event known as a Sprint. Sprint Planning, the Daily Scrum, the Sprint Review, and the Sprint Retrospective all happen within the confines of a Sprint.

- None of the Scrum events happen after a Sprint
- None of the Scrum events happen before a Sprint.
- None of the Scrum events can be left out of a Sprint.

Moving from Sprint to Sprint

Everything in Scrum happens within the boundaries of a Sprint. As soon as one Sprint ends, the next Sprint begins.

There is no buffer time between when one Sprint ends and the next Sprint starts where integration takes place, quality assurance happens or testing is done. If any of those things are part of the development of your product, all of those things have to happen during the Sprint.

Don't get tripped up on any questions that ask what happens before or after a Sprint.

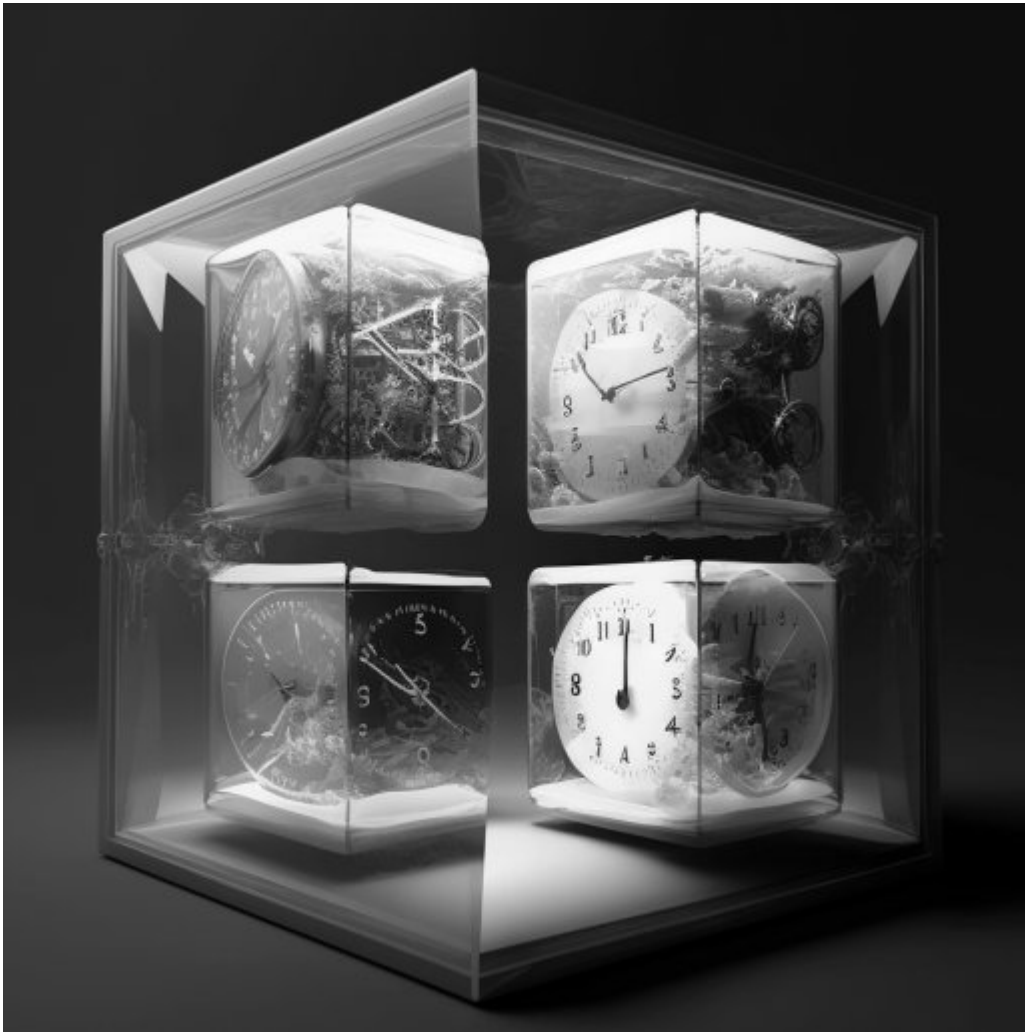


Figure 9. The four timeboxed events in Scrum all occur inside a fifth event known as the Sprint.

Inspection and Adaption

Notice how the Scrum Guide states that the higher purpose of the different Scrum Events, such as the Review, Retrospective, Planning meeting, and the Daily Scrum is to 'inspect and adapt.'

Scrum combines four formal events for inspection and adaptation within a containing event, the Sprint.

— 2020 Scrum Guide page 3

You will often get questions on the Scrum certification exam about what the purpose of the Sprint Retrospective is or what the purpose of the Daily Scrum is. If any of the listed options include the terms 'inspect' or 'adapt', those will likely be the correct answers.

Test Yourself

Which one of the following options best describes when a new Sprint begins?

- ☐ A) A new Sprint begins when Sprint Planning is completed
- ☐ B) A new Sprint begins when the Sprint Review is completed
- ☐ C) A new Sprint begins when the Product Owner begins the Sprint in JIRA
- ☐ D) A new Sprint begins after Sprint Planning when the Scrum Master declares the start of the Sprint
- ☒ E) A new Sprint begins as soon as the previous Sprint ends

A new Sprint begins as soon as the previous Sprint ends.

Technically speaking, the last event in the Sprint is the Sprint Retrospective, and the end of this event officially marks the end of the Sprint. A new Sprint could be said to start immediately after this event concludes, depending upon how pedantic you want to be about the answer.

The Sprint Retrospective concludes the Sprint.

— 2020 Scrum Guide page 10

Test Yourself

What is the purpose of the Daily Scrum?

(Choose 2)

- ☐ A) For the Scrum Master to get daily status updates from the developers
- ☐ B) To allow the developers to inspect their progress toward the Sprint Goal
- ☐ C) For the Product Owner to track the development team's progress on Product Backlog items
- ☐ D) To allow the developers to adapt their Sprint Plan as they work towards the Sprint Goal

Options B and D are correct.

From day to day and hour to hour, conditions change.

Scrum recognizes this reality, which is why it provides several events that allow for the inspection of progress along with the ability to adapt if necessary.

It should be noted that inspection and adaptation can happen at any time during the Sprint, not just during the official Scrum events.

If a computer hosting the Git repo catches fire, you don't wait until tomorrow's Daily Scrum to put it out, nor would you wait to tell the rest of the team about it.

Test Yourself

Which of the following concepts are consistent with a lean approach to product development?
(Choose 3)

- ☐ A) The elimination of unnecessary steps in a process
- ☐ B) Isolated development phases that flow into each other
- ☐ C) The removal of unnecessary features in a product
- ☐ D) Significant up-front planning and design
- ☐ E) The elimination of idle time where developers are not working
- ☐ F) Waiting for a manager to give you permission to proceed with a task
- ☐ G) Waiting for a planned event to discuss an important matter

Options A, C and E are correct.

These three options are core concepts learned from *lean manufacturing*.

Options B and D represent the waterfall model, which is the antithesis of Scrum and lean.

Forget Everything You Think You Know

Part of passing the Scrum Master certification exam is to first forget everything you *think* you know about Scrum, and then focus on the core concepts contained within the Scrum Guide.

That's why you won't hear me talking about the *Agile Manifesto* or discussing *story points* in this book. Other Scrum Master certification books invest a lot of time in those topics, but I think that does you a disservice.

The Scrum Guide never once mentions the word *Agile* and it never talks about *user stories* or *story points*.

Furthermore, the Scrum Master exam never tests you on these concepts, and whenever a potential answer references a *user story* or a *story point*, those answers will be red herrings trying to trip you up and get you to select an incorrect option.

Always be @Scrumtuuous!!!

That's also why you'll often find me repeating myself ad nauseam about certain topics throughout the book. For example:

- I will annoyingly repeat myself about the time allotted to the various Scrum events.
- I constantly emphasize that you don't have to wait for a Scrum event to change your plan.
- Scrum is a framework, it's not a process or a methodology.
- Scrum is not just for software development but for the development of *any product*.

My goal is to get you Scrum Master certified. A *lean approach* to doing so is to not waste your time discussing peripheral topics that will distract and confuse you.

Keep the Focus on the Goal

One of the Scrum values is focus.

Imma try my very best to keep you focused, not waste your time on topics that aren't heavily tested on the exam, and at the same time, constantly re-inforce topics that I know will be tested heavily.

That's how we're going to get you past the Scrum Master certification finish line!



Figure 10. With lean thinking and focus, we're going to get you past the Scrum Master certification finish line. (Image: Joshbdork, GFDL1.2)

NOTE

A *red herring* is something that misleads or distracts. The term comes from a story where a strong-smelling fish was used to distract dogs chasing a lovable rabbit.

Chapter 21: A Simple Trick

Here's a simple trick to help you correctly answer some of the hardest questions you'll face on the Scrum Master certification exam.

I've alluded to this trick throughout the book, but I really want to drive the idea home with the next set of practice exam questions.

A Hack to Help You Pass the Exam

Most people who take the Scrum Master exam come from the world of software development. That can really clutter your mind when answering a certification exam question.

Instead of thinking about how a given exam question applies to the field of software development, reframe the question in a completely different domain.



Figure 11. Reframing exam questions outside of software development makes them easier to answer.

The following exam questions are a mirror image of the first set of questions you were just asked, but reframed in a much more ridiculous and extreme manner.

The scenario used for the next set of questions is that of a shipwreck where survivors from a marooned party boat are forced to build a survival camp as they await rescue.

- The extreme, life-and-death predicament helps to simplify the interpretation of Scrum
- The ridiculousness makes the questions a bit more interesting.

Always be @Scrumtuious!!!

I think you'll find the next set of questions to be a bit more fun to answer than any of the others previously asked in this book.

You'll also find they give you a deeper understanding of the Scrum framework as well.

The Party Boat Disaster

A party boat from a popular tech conference was blown off course by a surprise typhoon, and 100 injured developers are now shipwrecked on a deserted island somewhere in the South Pacific.

The ship is marooned on rocky coral, stranded about 30 meters from the island's shore, and most of the survivors are too injured to make it to dry land.

Nobody knows what to do.

Fortunately, one developer took a Scrum course and has a copy of the 2020 Scrum Guide with them.

The castaways are going to make it through this ordeal, and a Scrum based approach to survival will guide them through it.

Their first task? Get a team of developers to go to shore and build a survival camp.



Figure 12. The following set of questions frame Scrum in a life-or-death survival scenario where castaways from a shipwreck must build a survival shelter.

Questions

On the actual Scrum Master certification exam, some questions may have multiple correct answers. You will be told how many options to select.

On this practice test, each question has only one answer.

Good luck!

Question 1

Scrum is software development process and should not be applied to life-or-death tasks like building a survival shelter.

- ☐ True
- ☐ False

Question 2

You, the Scrum Master, have outdoors experience. You would like to be a developer on the first Sprint and help build the temporary shelter.

How should you proceed in order not to violate the rules of the Scrum Guide?

- ☐ A. You must temporarily assign Scrum Master duties to another person while you act as a developer
- ☐ B. You must temporarily assign Scrum Master duties to the Product Owner while you act as a developer
- ☐ C. You must participate in the Daily Scrum during the Sprint
- ☐ D. Scrum Masters cannot be a developer on their Scrum Team

Question 3

A team of four developers, along with a Product Owner and the Scrum Master, have made it to shore and need to start building a survival shelter. However, the team is at odds over what they should do for the very first Sprint.

Whose approach is most in line with the ethos of the Scrum Guide?

- ☐ A. Jim wants to declare a 'Sprint 0' where time is spent planning and designing the survival camp
- ☐ B. Julie wants to spend the first Sprint searching the island for tools they can use to build the survival camp
- ☐ C. Jeff wants to spend the first Sprint searching the island for edible food and clean water
- ☐ D. Jessica wants to build a simple communication system from the camp to the ship using mirrors she salvaged

Question 4

Bob dug a trench to divert water from a nearby stream to the survival camp. Alan dug a trench so waste could be safely flushed from the survival camp out to sea.

The two trenches need to be joined. When is the best time to integrate these two trenches?

- ☐ A. Integration should happen immediately assuming both trenches meet the definition of done
- ☐ B. Integration should be coordinated with the rest of the team during the Daily Scrum
- ☐ C. Integration should happen during the Sprint Review so stakeholders can be present
- ☐ D. Integration should happen after approval is obtained from the Scrum Master
- ☐ E. Integration should happen after approval is obtained from the Product Owner

Question 5

Tina has just spotted a poisonous snake on the outskirts of the camp. When should Tina inform the rest of the development team?

- ☐ A. The development team should be informed immediately
- ☐ B. The development team should be informed at the next Daily Scrum
- ☐ C. The development team should be informed during the Sprint Retrospective
- ☐ D. The development team should be informed during the Sprint Review
- ☐ E. The development team should be informed after Tina talks about the deadly snake with the Scrum Master
- ☐ F. The development team should be informed after Tina talks about the deadly snake with the Product Owner

Question 6

Living conditions have become dire and progress on the survival camp has not been going as quickly as planned. Two developers and the Scrum Master will be returning to the marooned ship for two days to care for loved ones.

What instructions do you, the Scrum Master, have for the developers returning to the boat, knowing that the survivors on the ship are the primary stakeholders in the development of the survival camp.

- ☐ A. Tell the developers not to directly interact with any of the stakeholders on the ship
- ☐ B. Tell the developers to direct all questions from stakeholders about the survival camp to the Product Owner
- ☐ C. Have developers tell stakeholders to hold any questions they have about the survival camp for the Sprint Review
- ☐ D. Discuss progress about the survival camp openly and honestly with stakeholders when they ask

Question 7

Three healthy and enthusiastic survivors have swum ashore to help build the survival camp. Given the fact that a new, two-week Sprint has just started, when should these developers be added to the development team?

- ☐ A. The developers should be added to the team immediately
- ☐ B. The developers should be added to the team at the next Sprint Planning meeting
- ☐ C. The developers should be added to the team when the current Sprint ends but before the next Sprint begins
- ☐ D. The developers should be added to the team at the next Daily Scrum
- ☐ E. New developers cannot be added to a team once product development has started

Question 8

Things have been running smoothly for the last three Sprints. However, three new developers with no experience in building a survival camp have just been added to the team.

What will happen to the individual productivity of the experienced developers?

- ☐ A. A permanent decrease in productivity will occur
- ☐ B. A short term decrease in productivity will occur
- ☐ C. A permanent increase in productivity will occur
- ☐ D. A short term increase in productivity will occur

Question 9

The Product Owner has decided the survival camp needs a canoe. However, nobody on the team has the skills to build a canoe. What should the team do?

- ☐ A. Organize a sub-team dedicated to building a canoe
- ☐ B. Outsource the building of a canoe to a third-party
- ☐ C. Tell the Product Owner building a canoe is not possible
- ☐ D. Figure out how to build a canoe

Question 10

A devastating flash flood has ripped through the survival camp and washed away the shelters the team spent the majority of the Sprint building.

How should the Scrum team proceed?

- ☐ A. Have the developers regroup and adjust the Sprint Plan accordingly
- ☐ B. Have the developers cancel the Sprint and begin a new Sprint Planning meeting
- ☐ C. Have the developers put time aside during the next Daily Scrum to adjust the Sprint Goal
- ☐ D. Tell the developers the Sprint Plan cannot be changed and they should continue with their original plan

Answers

Answer 1

Scrum is software development process and should not be applied to life-or-death tasks like building a survival shelter.

- ☐ True
- ☒ False

This is false.

Scrum is a way to help teams get started on the development of a product and help those teams iteratively solve complex problems until product development is complete.

Scrum is a lightweight, incomplete framework for product development. Scrum is *not* a process or a methodology, and it is definitely not exclusively tied to the domain of software development.

Answer 2

You, the Scrum Master, have outdoors experience. You would like to be a developer on the first Sprint and help build the temporary shelter.

How should you proceed in order not to violate the rules of the Scrum Guide?

- ☐ A. You must temporarily assign Scrum Master duties to another person while you act as a developer
- ☐ B. You must temporarily assign Scrum Master duties to the Product Owner while you act as a developer
- ☒ C. You must participate in the Daily Scrum during the Sprint
- ☐ D. Scrum Masters cannot be a developer on their Scrum Team

Option C is correct.

There's no rule that says a Scrum Master can't also be a developer.

Could you imagine a life or death survival situation where a Scrum Master refuses to offer assistance just because they have the title of 'Scrum Master?' The idea is preposterous.

Both a Scrum Master and the Product Owner can participate as developers on a Scrum Team. The only rule is that when doing product development, a PO or Scrum Master must attend the Daily Scrum and participate as unbiased developers.

Answer 3

A team of four developers, along with a Product Owner and the Scrum Master, have made it to shore and need to start building a survival shelter. However, the team is at odds over what they should do for the very first Sprint.

Whose approach is most in line with the ethos of the Scrum Guide?

- ☐ A. Jim wants to declare a 'Sprint 0' where time is spent planning and designing the survival camp
- ☐ B. Julie wants to spend the first Sprint searching the island for tools they can use to build the survival camp
- ☐ C. Jeff wants to spend the first Sprint searching to see if there is any edible food or clean water on the island
- ☒ D. Jessica wants to build a simple communication system from the camp to the ship using mirrors she salvaged

Option D is correct.

In Scrum, every Sprint must attempt to deliver some piece of usable and valuable functionality that will be part of the final product.

Setting up infrastructure, configuring tools, planning, designing and even looking to see if there are edible foods around are all noble tasks, but they all must occur in the background as the Scrum team focuses on the delivery of at least one Increment of value before the end of the current Sprint.

Answer 4

Bob dug a trench to divert water from a nearby stream to the survival camp. Alan dug a trench so waste could be safely flushed from the survival camp out to sea.

The two trenches need to be joined. When is the best time to integrate these two trenches?

- ☒ A. Integration should happen immediately assuming both trenches meet the Definition of Done
- ☐ B. Integration should be coordinated with the rest of the team during the Daily Scrum
- ☐ C. Integration should happen during the Sprint Review so stakeholders can be present
- ☐ D. Integration should happen after approval is obtained from the Scrum Master
- ☐ E. Integration should happen after approval is obtained from the Product Owner

Option A is correct.

Always be @Scrumtuuous!!!

If two developers have worked on a feature that is complete and meets the Definition of Done, they should integrate their work immediately.

Scrum prides itself on being based on lean thinking. How lean would it be to have developers wait around for a Scrum Master or Product Owner to tell them it's okay to integrate their work?

If the work is done, it should be integrated immediately. After all, if the work does not successfully integrate, then it's not really 'done', is it?

Scrum doesn't put 'red tape', ceremony and procedure around the development process.

Instead, Scrum is pragmatic and lean. When work is done, integrate it immediately and then move on to the next thing that needs to be built.

Answer 5

Tina has just spotted a poisonous snake on the outskirts of the camp. When should Tina inform the rest of the development team?

- ☒ A. The development team should be informed immediately
- ☐ B. The development team should be informed at the next Daily Scrum
- ☐ C. The development team should be informed during the Sprint Retrospective
- ☐ D. The development team should be informed during the Sprint Review
- ☐ E. The development team should be informed after Tina talks about the deadly snake with the Scrum Master
- ☐ F. The development team should be informed after Tina talks about the deadly snake with the Product Owner

Option A is correct.

Obviously if something threatens the people working on the product, the existence of the threat should be brought up immediately. You don't wait for a planned event to warn your peers about a dangerous situation.

On the Scrum Master exam, they will ask you what should happen if a developer identifies a dangerous security flaw that threatens the project. People often stumble on this question, thinking maybe it's something to discuss at the Sprint Retrospective, or something to raise at the next Daily Scrum.

If there's a serious problem, it should be addressed immediately. The Scrum Events should never act as an excuse to postpone important discussions about the health of the project.

Answer 6

Living conditions have become dire and progress on the survival camp has not been going as quickly as planned. Two developers and the Scrum Master will be returning to the marooned ship for two days to care for loved ones.

What instructions do you, the Scrum Master, have for the developers returning to the boat, knowing that the survivors on the ship are the primary stakeholders in the development of the survival camp.

- ☐ A. Tell the developers not to directly interact with any of the stakeholders on the ship
- ☐ B. Tell the developers to direct all questions from stakeholders about the survival camp to the Product Owner
- ☐ C. Have developers tell stakeholders to hold any questions they have about the survival camp for the Sprint Review
- ☒ D. Discuss progress about the survival camp openly and honestly whenever stakeholders ask

Option D is correct.

Could you imagine how much fear, uncertainty and distrust it would create in this scenario if a gag order was put on the people building the survival camp?

Furthermore, the idea that developers should not be allowed to talk to stakeholders in this scenario is asinine and paradoxical, because every one of the developers is a stakeholders. Everyone in this problem domain is a stakeholder.

People think Scrum has a whole set of rules that regulate when a developer is allowed to talk to a stakeholder or the Product Owner or a customer. It doesn't.

Scrum doesn't advocate secrecy and silence. Scrum advocates for transparency and openness.

If your organization has some rules about developers not talking to stakeholders, that's an entirely different issue. It's also an impediment the Scrum Master might want to address.

Rules that limit transparency and communication do not coincide the Scrum values and pillars.

Answer 7

Three healthy and enthusiastic survivors have swum ashore to help build the survival camp. Given the fact that a new, two-week Sprint has just started, when should these developers be added to the development team?

- ☒ A. The developers should be added to the team immediately
- ☐ B. The developers should be added to the team at the next Sprint Planning meeting
- ☐ C. The developers should be added to the team when the current Sprint ends but before the next Sprint begins
- ☐ D. The developers should be added to the team at the next Daily Scrum
- ☐ E. New developers cannot be added to a team once product development has started

Option A is correct.

If you were in a life or death situation, and three people showed up who could potentially help save you, would you ask them to sit on the sidelines for two weeks until the next Sprint Planning meeting, or would you get them to work right away?

Which approach is more pragmatic and lean? Having developers sit on the sidelines doing nothing, or having them get to work right away? If new developers become available, have them join the team and get to work immediately.

Answer 8

Things have been running smoothly for the last three Sprints. However, three new developers with no experience in building a survival camp have just been added to the team.

What will happen to the individual productivity of the experienced developers?

- ☐ A. A permanent decrease in productivity will occur
- ☒ B. A short term decrease in productivity will occur
- ☐ C. A permanent increase in productivity will occur
- ☐ D. A short term increase in productivity will occur

Option B is correct.

When new developers are added to a team, the onboarding process takes time, and it usually consumes the time of existing team members.

When new developers become familiar with the development process, productivity will go back to normal, but in the short term, individual productivity will fall.

Answer 9

The Product Owner has decided the survival camp needs a canoe. However, nobody on the team has the skills to build a canoe. What should the team do?

- ☐ A. Organize a sub-team dedicated to building a canoe
- ☐ B. Outsource the building of a canoe to a third-party
- ☐ C. Tell the Product Owner building a canoe is not possible
- ☒ D. Figure out how to build a canoe

Option D is correct.

It is assumed that all of the skills required to build out the various Product Backlog items exist within the team of Scrum developers, and if they don't, the team will acquire them.

There are no sub-teams or hierarchies in Scrum, and there's certainly nobody to outsource to on a deserted island.

When you take the Scrum Master certification exam, assume each test question is talking about an isolated team of developers unless the question states otherwise.

If one of the Product Backlog items is a canoe, then the team better learn how to carve out a canoe.

Answer 10

A devastating flash flood has ripped through the survival camp and washed away the shelters the team spent the majority of the Sprint building.

How should the Scrum team proceed?

- ☒ A. Have the developers regroup and adjust the Sprint Plan accordingly
- ☐ B. Have the developers cancel the Sprint and begin a new Sprint Planning meeting
- ☐ C. Have the developers put time aside during the next Daily Scrum to adjust the Sprint Goal
- ☐ D. Tell the developers the Sprint Plan cannot be changed and they should continue with their original plan

Option A is correct.

When circumstances change, developers should adapt immediately.

Scrum provides a number of scheduled events to ensure communication happens regularly, but those events are not the only times developers are allowed to communicate with each other.

Always be @Scrumtuuous!!!

If something dramatic happens, developers should immediately adapt. Adaptation should be perpetual throughout a Sprint.

Note that while the Sprint Plan can change, the Sprint Goal cannot. The Sprint Goal is finalized at the end of Sprint Planning and cannot be changed throughout the Sprint.

It is also not possible for the developers or the Scrum Master to cancel a Sprint. Only the Product Owner can cancel a Sprint, and only under the circumstance where the Sprint Goal has become obsolete.

Don't overthink Scrum. Don't ever let the Scrum events be an excuse for not taking immediate action when immediate action is warranted.

The Final Chapter

Congratulations! You did it!

You got to the end of this book. You've finished reading my Scrum Master Certification Guide!

And you're probably wondering 'what now?' What's next?

I'll tell you what's next.

What's next is that you need to:

- Go onto the [scrum.org](https://www.scrum.org) site
- Purchase an exam voucher
- Schedule the exam
- Take the exam

Put your fears aside

This book provides more than enough detail to help you pass the Scrum Alliance Scrum Master exam too, although I personally believe the [scrum.org](https://www.scrum.org) cert is better.

Just pick your poison and schedule the exam.

Now I know what you're thinking.

- You're worried that you're not ready. **Doesn't matter. Schedule the exam.**
- You're worried you need to study more. **Doesn't matter. Schedule the exam.**
- You think you should take another course or read another book. **Don't do it. Schedule the exam.**
(Unless of course it's one of my other courses or books. You should **definitely** buy those!)

Some unorthodox advice

And I'd also offer up this unorthodox advice: Take the exam with the expectation that you're going to fail. The fact is, most people fail the first time, and it's rarely due to them not being knowledgeable enough.

The time constraints on the exam are savage. You have to answer 80 questions in 60 minutes. That's less than 60 seconds per question!

Until you actually take the exam in a live setting, you really have no appreciation for how stressful that time constraint is.

With a passing score of 85%, many people fail simply because they don't answer all the questions in time.

Sign up and do a dry run

Other people just get flustered in the exam environment.

It's unfamiliar and the stakes are high when you take the test, so fumbling around over how to mark a question to view it later or how to move back to previously asked questions can throw you off your game.

The exam interface isn't that complicated, so after you've taken the test once you'll be an expert with it.

But the first time? It can be intimidating, and that intimidation can mess you up.

Getting into their head

There's also a rhythm to the questions on the exam.

It's almost like you have to get ten or fifteen questions in to understand what was in the head of the people who designed the test.

There's just a certain way questions are asked, and the way questions are worded that takes a little while to get comfortable with.

I certainly try to replicate that rhythm in the practice tests as much as I can, but I can't do it perfectly.

Once you tune into the rhythm, answering questions becomes easier; but the first time you write the exam you might get a question or two incorrect just because the wording of the question might feel awkward. With a really high passing score, one or two missed questions can be the difference between a pass or a fail.

An empirical evaluation

And you know what?

You might fail because you're not prepared or because there are certain topics you are weak on. Finding that out is a good thing, not a bad thing.

After you take the Scrum Master certification exam, your score is broken down into 13 different categories. This gives you immediate feedback on where you need to concentrate your studies.

Furthermore, when you do take the exam, you will inevitably encounter some terms you may not have heard before, or perhaps you had not paid enough attention to.

But after taking the exam, every subsequent time you study and you hear those unfamiliar terms, your mental radar will go off and you'll pay special attention to that concept even more.

Your focus will be heightened and your time spent studying will be more productive than ever.

Sample PSM I Assessment Result

If you're interested in the 13 categories the PSM1 exam is broken down into, here's a sample report from a student of mine who recently passed the exam:

Scrum.org PSM I Assessment Result	
Focus Area	Score
Facilitation	100%
Coaching and Mentoring	100%
Artifacts	100%
Events	100%
Self-Managing Teams	90.9%
Scrum Team	100%
Scrum Values	100%
Empiricism	100%
Product Backlog Management	100%
Done	88.9%
Forecasting and Release Planning	100%
Stakeholders and Customers	100%
Product value	50%

Zero risk. Massive reward.

There's no penalty to taking the Scrum Master exam and failing it. I know lots of Scrum experts who failed the exam the first time. It's common.

Just think of it this way: A fail is an awesome opportunity to find out what the exam is like, what the questions feel like, how the exam software works and on top of that, you get immediate and targeted feedback about where you need to concentrate your studies.

In the world of Scrum, we talk about the importance of empirical research and data. What's more empirical than taking the exam and examining your results?

Sure, it costs \$100.

That's a sunk cost, and \$100 isn't a trivial amount of money. But it's also part of an investment you're making in yourself, and from that perspective, I think it's more than worth it.

I mean, I've seen people pay over \$200 to purchase a set of online practice exams. Why not just take the actual exam instead?

You may surprise yourself...

Now here's the thing.

I want you to go in and take the exam with the full expectation that you'll fail the first time.

But you know what often happens? People often pass.

Sometimes people who feel they are completely unready will score a perfect 100%.

You might be over-preparing?

The majority of people who take the Scrum Master certification exam fail on their first attempt.

But at the same time, the majority of people who pass have over-prepared.

I've seen hundreds of students push the exam off for months, doing practice exams and re-reading the Scrum Guide until they've got every paragraph memorized. Don't do that. Your time is far too valuable.

How do you know if you're over-prepared or under-prepared? You take the exam and find out!

You've got this!

And while it's true the majority of people who take the Scrum Master exam fail the first time, I will say that statistic is not true about people who have read this certification guide and taken its practice tests seriously.

If you can go through all the sample questions in this book and both answer them correctly and be able to personally articulate why a given answer is correct, then there is a very good chance you'll pass the exam on your first try! Lots of people have.

Oh, and when you do pass, I want to know about it!

I'm very active on LinkedIn and Twitter. So find me there! (@Scrumtuous)

I want to share in your success

Tag me in a Twitter post with a photo of the book and let the world know that you passed the exam.

(And post a 5-star review for this book on Amazon too. I'd really appreciate it!)

I really want to know about your success, and I know others who are struggling themselves will be inspired by seeing you achieve your goals.

Let's inspire people together!

A few people I need to thank...

Everyone says that social media is so negative and divisive, but the fact is, I don't know where I'd be if it wasn't for the ongoing support and encouragement from the friends I've made on Twitter. (And yes, I know it's called X now.)

Xennial Innovations	@xennialinc
Chuck LaPress	charleslapress.com
Michael Lloyd	#DysfunctionMapping
Walker Boh	@nakedMCSE
Bojan	@bojbojbojbojboj
The Pocket Programmer	@PocketProgram
Gareth	@gggwhiting
Andrew Brown	@andrewbrown
Josh Long	@starbuxman
Ted Neward	@tedneward
Jack Forge	@thejackforge
Open Dev Log	@OpenDevLog
Chicken8 & Chicken9	@eighteyespy
Stoic Michael McGill	@mcgillmd921
Uncle Bob Martin	@unclebobmartin
Cameron McKenzie	@cameronmcnz
Allen Holub	@allenholub
Krishna S	@Firestarter7676
Brian Dordevic	@briandordevic
Kevin McAleer	@kevsmac
Sean Kaye	@SeanDoesLife
Kaje	@Quasicodo
Ben Weddle	@ben__weddle
Eddie Jaoude	@eddiejaoude
Minimalish	@Minimalish_YT
Rami M. Amin	@rmtux
Liz Rowe	@lizroweyt

I know I've forgotten a bunch of people. If you're a long-time supporter and follower, message me on Twitter (@Scrumtuuous) so I can correct the mistake. Again, thank you all so much!

Always be @Scrumtuous!!!

More to come!

This Scrum Master Certification Guide is just the start!

Follow me on Twitter, head over to my website or subscribe to my newsletter to learn more about:

- My upcoming Product Owner Practice Exams book
- My online Scrum Master Practice Tests with over 350 unique sample questions
- My Discord channel where we talk about all things Scrum
- My online Scrum Master Certification Course

Much of this is all in the development stage, so keep in touch and join me as I build in public!

Go to www.scrumtuous.com to learn more!



@scrumtuous



Figure 13. Please come find me on Twitter. I'm @Scrumtuous on all platforms!

When the student is *truly* ready, the teacher will disappear.
Tao Te Ching
