

A4Q Design Thinking Foundation

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Alliance for Qualification



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Revision History

Version	Date	Remarks
Version 2018	October 2018	1. Release version

Answer Key

Question Number	Correct Answer	K-Level	LO
1	D	K1	DTFL-1.1.0
2	A	K1	Keyword-CH1
3	D	K2	DTFL-1.2.0
4	A	K2	DTFL-1.3.0
5	D	K2	DTFL-1.4.0
6	A	K1	DTFL-2.3.1
7	B	K1	Keyword-CH2
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9	D	K2	DTFL-2.1.2
10	C	K2	DTFL-2.1.3
11	A	K2	DTFL-2.1.4
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19	A	K2	DTFL-2.2.4
20	A	K2	DTFL-2.3.2
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23	A	K2	DTFL-2.3.5
24	C	K1	Keyword-CH3
25	A	K2	DTFL-3.2.1
26	A	K2	DTFL-3.2.2
27	D	K2	DTFL-3.2.3
28	B	K2	DTFL-3.2.4
29	D	K2	DTFL-3.2.5
30	A	K2	DTFL-3.2.6
31	A	K2	DTFL-3.2.7
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33	B	K2	DTFL-3.2.9
34	D	K2	DTFL-3.2.10
35	D	K2	DTFL-3.2.11
36	A	K3	DTFL-3.1.1
37	A	K3	DTFL-3.1.2
38	D	K3	DTFL-3.1.3
39	B	K3	DTFL-3.1.4
40	D	K4	DTFL-3.3.1

Questions

Question 1 DTFL-1.1.0 K1

Which of the following CORRECTLY resembles a design thinking process attribute?

- A. Process involves sophisticated nearly feature-complete prototypes early on to reassure stakeholders the design team knows what they are doing.
- B. Process involves a single linear activity flow of learning, making and evaluating.
- C. Process involves a design team committed to learning about the problem space and constraints while understanding they are representative of the users.
- D. Process involves exploring the potential of multiple candidate solutions before committing to one.

Question 2 Keyword-CH1 K1

Which of the following BEST describes the term "design thinking mindset"?

- A. A frame of mind that is beneficial to design thinking methods used to solve challenges and innovate. This frame of mind applies to individuals on a design thinking team and for the team as a whole.
- B. A frame of mind that people not involved with design thinking associate with people who claim to be designers. The term can have a negative implication.
- C. A frame of mind that is beneficial to design thinking in terms of the qualities designers should exhibit in terms of mental discipline and moral character. This frame of mind applies to individuals and teams of designers.
- D. A frame of mind that is beneficial to design thinking methods used to avoid challenges and innovation. This frame of mind applies to businesses commonly interested in producing commodities.

Question 3 DTFL-1.2.0 K2

Which of the following is NOT an example of a business use of design thinking?

- A. Developing a new revenue stream from people already present filling up their vehicle's fuel tanks with fuel or recharging batteries.
- B. Developing a new product line of automated bicycles for sale in high density urban markets.
- C. Developing a service that washes vehicles of a store's customers while their occupants are shopping in the store.
- D. Developing a new city-wide public trash bin to be used to improve neighborhood cleanliness.

Question 4 DTFL-1.3.0 K2

Which of the following statements about differences among design thinking approaches is CORRECT?

- A. A highly visible difference is the number and types of stages specified.
- B. A highly visible difference is that research studies show significantly higher success rates for those mentioned in the syllabus over the methods not mentioned.
- C. A highly visible difference is not all design thinking approaches rely on divergent thinking.
- D. A highly visible difference is not all design thinking approaches consult with end-users.

Question 5 DTFL-1.4.0 K2

Which of the following statements is the BEST example of the design thinking mindset?

- A. While the marketing manager member has left for several days, the team members work on building a prototype around the marketing manager's preferred concept.
- B. As the team builds a prototype of a revised human resources benefits portal they stop after changing the font, images, menu button styles and background color of the portal pages.
- C. As the team explores concepts for a new disposable pen on a conference call they go around having each participant describe their ideas on a new grip.
- D. As the team members listen to a user explore a prototype, they pay special attention to what is said and how it said in addition to carefully watching the users body language.

Question 6 DTFL-2.3.1 K1

Which of the following CORRECTLY resembles a notable finding in a Design Council research report on design thinking?

- A. An ideal design thinking approach would not be relevant long enough to become established because of the speed in which the world is changing.
- B. An ideal design thinking approach is possible. It is only a matter of proper research to indicate the best approach.
- C. Successful design oriented businesses found it necessary to adapt their business to the same approach.
- D. Design oriented companies should prepare to adopt the best approach, Double Diamond, by 2025 in order to prepare for a looming shortage of designers.

Question 7 Keyword-CH2 K1

Which of the following BEST describes the term "social norm"?

- A. The laws, morals, values, religious beliefs, customs, fashions, rituals, and all of the cultural rules that govern social life.
- B. The rules or expectations that determine and regulate appropriate behavior within a culture, group, or society.
- C. A way to regulate, enforce, and encourage conformity to norms both formally and informally, particularly by ones peers.
- D. A behavior by an individual during an interaction to which the individual attaches meaning based on others interpretations or responses to the act.

Question 8 DTFL-2.1.1 K2

Which of the following BEST explains the need for empathy in design thinking?

- A. In order for design thinkers to function as a team and for stakeholders to share their insights, trust is needed, which requires the ability to reduce the number of possible options from a larger set of choices.
- B. In order for design thinkers to function as a team and for stakeholders to share their insights, trust is needed, which requires the ability to understand the feelings of others.
- C. In order for design thinkers to function as a team and for stakeholders to share their insights, trust is needed, which requires a means of reasoning that forms and manipulates non-linguistic conceptual objects.
- D. In order for design thinkers to function as a team and for stakeholders to share their insights, trust is needed, which requires that things accepted as true, without proof, are determined to be false or reasonable.

Question 9 DTFL-2.1.2 K2

Which of the following statements BEST exemplifies the use of ethnography in design thinking?

- A. A gathered design thinking team, working on a breakfast cereal container design, offer up ideas on how people might want to open up a new eco-friendly container.
- B. As a college design-thinking team prepares their audio assisted navigation smartphone app for seeing impaired hospital patients, several students wearing obscured glasses and hospital gowns walk through their campus library's stacks.
- C. As a multi-cultural design thinking team work on a multi-lingual tour of the United Nations headquarters building, the team gathers to translate their current-state findings into a problem statement.

- D. A pair of Auckland's tourism bureau design thinking team members sit with a stakeholder and inquire about how a prototype may help her with navigating streets of Auckland as a non-English speaker.

Question 10 DTFL-2.1.3 K2

Which of the following statements about the use of divergent thinking in design thinking is CORRECT?

- A. Divergent thinking seeks out stakeholders' insights to help the design thinking team understand the problem and solution viability.
- B. Divergent thinking synthesizes ideas and consolidates them into viable solution concepts.
- C. Divergent thinking expands the potential solution space by encouraging the design thinking team to suggest new and diverse ideas.
- D. Divergent thinking enables the design thinking team to recognize, understand and share stakeholder feelings.

Question 11 DTFL-2.1.4 K2

Which of the following statements BEST exemplifies the use of convergent thinking in design thinking?

- A. A design thinking team for the United Nations consolidates the remaining three candidate prototypes of multi-lingual tours of UN Headquarters to one for final rounds of improvement and testing.
- B. An Auckland tourism bureau design thinking team meet with new tourists from non-English speaking countries and ask them to give feedback on several Auckland city navigation aid prototypes.
- C. A team of design thinkers working on a breakfast cereal container design observe hours of video of people of various ages, genders and abilities open current breakfast cereal container designs to identify what the current challenges are.
- D. Members of a college design thinking team meet to discuss the variety of ways a seeing impaired person could operate an audio assisted navigation app for in-hospital navigation.

Question 12 DTFL-2.1.5 K2

Which of the following statements BEST exemplifies the use of visual thinking in design thinking?

- A. A design thinking team for the United Nations explore various approaches to providing multi-lingual tours of UN Headquarters by drafting storyboards depicting sequences of points of interest.
- B. An Auckland tourism bureau design thinking team discuss interview responses to questions regarding whether non-English speaking tourists find navigating Auckland city streets any more difficult than other English speaking cities.
- C. A team of design thinkers working on a breakfast cereal container design collect hours of video of people of various ages, genders and abilities open current breakfast cereal container designs to identify what the current challenges are.
- D. Members of a college design thinking team meet with their hospital based sponsor to explore hospital approved methods of approaching visitors, staff and patients to ask for their help with their audio assisted navigation app for in-hospital navigation.

Question 13 DTFL-2.1.6 K2

Which of the following BEST explains the purpose of assumption testing in design thinking?

- A. Design thinking relies on assumption testing to avoid issues with problem misunderstandings and developing solutions that fail because the designs did not properly address actual needs, wants and sensibilities of stakeholders.
- B. Design thinking relies on assumption testing to avoid issues with solution concepts that are based on a lack of understanding of what the problem is and not identifying who the stakeholders are as people.
- C. Design thinking relies on assumption testing to avoid issues with solution failure by ensuring clever ideas integrate into a cohesive and functional concept.
- D. Design thinking relies on assumption testing to avoid issues with solution failure by proposing ideas that will lead to a solution that is different from the current state of affairs.

Question 14 DTFL-2.1.7 K2

Which of the following BEST explains the purpose of prototyping in design thinking?

- A. Design thinking depends upon prototyping to express a concept in a manner by which it can be seen, experienced and possibly touched by team members and stakeholders in order to establish common understanding and facilitate learning how the concept could be improved.
- B. Design thinking depends upon prototyping to interpret feelings and concerns of team members and stakeholders as they see and experience a solution concept.

- C. Design thinking depends upon prototyping to evaluate data that may clarify misunderstandings about the problem or suggest ways the current solution is misaligned relative to stakeholder needs, wants and limitations.
- D. Design thinking depends upon prototyping to initiate contact with stakeholders who may be willing to evaluate solution concepts and recommend changes.

Question 15 DTFL-2.1.8 K2

Which of the following statements BEST states when to focus on learning and when to expect to validate within design thinking?

- A. Design thinking is about how to derisk innovation. To reduce risk, learning is essential upfront in order to establish solution parameters. Prototype evaluation, learning and making loops provide improving approximations of market validation. A soft launch will provide general market validation as long as the final prototype is very similar to the market offering.
- B. Learning about stakeholders and their expectations and challenges with solution candidates for their problem is a key focus area of design thinking. This objective is pursued from the start to the finish of the process. An initial sense of validation is achieved by the end so long as new stakeholders participate throughout the process, and the final prototype is very similar to the market offering.
- C. Learning about stakeholders and their expectations and challenges with solution candidates for their problem is a key focus area of design thinking. This objective is pursued from the start to the finish of the process. General validation is achieved with greater reliability with each iteration of stakeholder evaluation.
- D. Design thinking is about how to derisk innovation. To reduce risk, learning is essential upfront in order to establish solution parameters. Prototype evaluation, learning and making loops provide no generalizable sense of potential market response. However, a soft launch will provide general market validation as long as the final prototype is very similar to the market offering.

Question 16 DTFL-2.2.1 K2

Which of the following statements BEST describes the type of people needed for design thinking projects?

- A. A good potential design thinker is, in part, a person who is the best available expert in a relevant area, and is one who listens and communicates well, and is one who is able to help on the project.
- B. A good potential design thinker is, in part, a creative people person who has expertise in a relevant area, and is one who listens and communicates well, and is one who is able to commit to the project.

- C. A good potential design thinker is, in part, an analytical person who has expertise in a relevant area, and is one who communicates well, and is one who is able to commit to the project.
- D. A good potential design thinker is, in part, a creative people person who is familiar with several relevant areas, and is one who listens well, and is one who is willing to commit to the project.

Question 17 DTFL-2.2.2 K2

Which of the following BEST describes an effective use of a design thinking space?

- A. By using stackable and mobile furniture, the space is reorganized for the purposes of current activity. Important artifacts are always available and easily made visible in context of other artifacts.
- B. By using flexible furniture in designated zones, the space is designed to accommodate a variety of simultaneous activities. Important artifacts are located in a specific zone, and are always visible there.
- C. There are no horizontal surfaces beyond the floor in this space. With mobile vertical pin boards, mobile shelving and mobile whiteboards, the space use is fluid allowing important and lesser artifacts to be placed in mutual proximity easily.
- D. Team member personal workspaces are relocated to this space. Stackable and mobile furniture are used in the common area of the space, which can be reorganized for a specific activity. Important artifacts are always available and can be moved into common area when needed.

Question 18 DTFL-2.2.3 K2

Which of the following statements BEST describes the types of materials needed for design thinking projects?

- A. Design thinking tools and materials are those that team members find effortless working with as they are used to formulate new ideas visually and express concepts as prototypes.
- B. Design thinking tools and materials are those that team members find fun and exciting to work with as they are used to formulate new ideas visually and express concepts as prototypes.
- C. Design thinking tools and materials are those that team members receive from approved requests for use in formulating new ideas visually and expressing concepts as prototypes.
- D. Design thinking tools and materials are those that team members feel produce stunning artifacts resulting from formulating new ideas visually and expressing concepts as prototypes.

Question 19 DTFL-2.2.4 K2

Which of the following is NOT a user prompt?

Which of the following statements BEST describes the potential dynamic between design thinking teams and the organization?

- A. Organizations unfamiliar with cross-functional collaborative innovation often pose structural and cultural challenges when attempting to secure human and other resources for a design thinking project. Their current business models may cause innovative solution options to be avoided or project outcomes to be rejected.
- B. Organizations unfamiliar with cross-functional collaborative innovation typically encourage design thinking by reallocating resources promptly after project approval. However, their current business models may cause innovative solution options to be avoided or project outcomes to be rejected.
- C. Organizations unfamiliar with cross-functional collaborative innovation typically permit design thinking by the eventual reallocation of resources after project approval. After project approval, current business models are allowed to accommodate any promising innovative result.
- D. Organizations unfamiliar with cross-functional collaborative innovation undermine design thinking by denying resources after project approval. In the event the project succeeds, current business models are allowed to accommodate any innovative result.

Question 20 DTFL-2.3.2 K2

Which of the following is an output that results from the Define stage of the Double Diamond design thinking approach?

- A. Problem definition
- B. Solution
- C. Design criteria
- D. Vision prototype

Question 21 DTFL-2.3.3 K2

Which of the following BEST states a design thinking mindset attribute the Stanford d.School advocates?

- A. Teams should seek radical collaboration in order to achieve breakthroughs
- B. Teams should tell not show what they mean to get their point across.
- C. Teams should be biased towards analysis to ensure their thoughts are well considered.
- D. Teams should allow each member to work with the tools that they feel are necessary at the moment.

Question 22 DTFL-2.3.4 K2

Which of the following Designing for Growth design thinking approach stages involves the most intense convergent thinking effort?

- A. What is?
- B. What works?
- C. What if?
- D. What wows?

Question 23 DTFL-2.3.5 K2

Which of the following BEST provides an accurate comparison between design thinking and agile software development projects?

- A. Design thinking and agile software development share an energetic pace and rely on iterative progress towards an end goal. Design thinking differs in that the tasks, durations and resources necessary to achieve a desirable innovative outcome are much less certain, because fundamentally the end state has not been previously accomplished.
- B. Design thinking and agile software development share an energetic pace and rely on linear progress towards an end goal. Design thinking differs in that the tasks, durations and resources necessary to achieve a desirable innovative outcome are knowable in advance making design thinking less risky.
- C. Design thinking and agile software development share a cautious pace and rely on a circular process to achieve an end goal. Design thinking differs in that the tasks, durations and resources necessary to achieve a desirable innovative outcome are knowable in advance making design thinking less risky.
- D. Design thinking and agile software development share a deliberate pace and rely on a linear process to achieve an end goal. Design thinking differs in that the tasks, durations and resources necessary to achieve a desirable innovative outcome are much less certain, because fundamentally the end state has not been previously accomplished.

Question 24 Keyword-CH3 K1

Which of the following BEST describes the term "competitive advantage"?

- A. A business criterion related to the condition or situation that puts a business in a superior or beneficial position relative to its competition. Competitive advantage is improved if a solution is vulnerable to competitive emulation. By seeking new business value from a solution, the business embraces vulnerability as well as opportunity.
- B. A business criterion related to the condition or situation that puts a business in an inferior or detrimental position relative to its competition. Competitive advantage is improved if a solution is vulnerable to competitive emulation. By seeking new business value from a solution, the business considers vulnerability and avoids opportunity.
- C. A business criterion related to the condition or situation that puts a business in a superior or beneficial position relative to its competition. Competitive advantage is diminished if a solution is vulnerable to competitive emulation. By seeking new business value from a solution, the business considers vulnerability, but looks beyond to identify opportunity.
- D. A business criterion related to the condition or situation that puts a business in a superior or beneficial position relative to its partners. Competitive advantage is diminished if a solution is vulnerable to partner emulation. By seeking new business value from a solution, the business considers vulnerability, but looks beyond to identify opportunity.

Question 25 DTFL-3.2.1 K2

Which of the following pairs of tools is considered MOST appropriate for the What if stage within the Designing for Growth design thinking approach?

- A. brainstorming, concept development
- B. brainstorming, assumption testing
- C. concept development, rapid prototyping
- D. mind mapping, assumption testing

Question 26 DTFL-3.2.2 K2

Which of the following relationships BEST describes the relationship between the level of abstraction presented and mental imagery needed to understand the ideas being shared?

- A. As the degree of abstraction presented increases, the intensity of effort to image mentally increases as well.
- B. As the degree of abstraction presented decreases, the intensity of effort to image mentally increases.
- C. As the degree of abstraction presented decreases, mental image inconsistency increases.
- D. As the degree of abstraction presented decreases, mental image incongruence increases.

Question 27 DTFL-3.2.3 K2

Which of the following statements BEST explains the number of stakeholders recommended for the journey mapping activity within the Designing for Growth design thinking approach?

- A. The number of stakeholders should range from three to seven. One will be asked to correct and refine the team's understanding of the "customer journey" before formally interviewing the remaining participants.
- B. The number of stakeholders should range from 25 to 35. One-fifth of the stakeholders will be asked to correct and refine the team's understanding of the "customer journey" before formally interviewing the remaining participants.
- C. The number of stakeholders should range from three to seven. One will be asked to correct and refine the team's understanding of the "customer journey" before formally interviewing that stakeholder along with remaining participants.
- D. The number of stakeholders should range from twelve to 20. Several will be asked to correct and refine the team's understanding of the "customer journey" before formally interviewing the remaining participants.

Question 28 DTFL-3.2.4 K2

Which of the following unordered sets of Designing for Growth stages BEST reflects the recommended times for when the value chain analysis tool could be used?

- i. What wows?
 - ii. What works?
 - iii. What is?
 - iv. What if?
-
- A. ii
 - B. iii
 - C. iv
 - D. iii, iv

Question 29 DTFL-3.2.5 K2

Which of the following statements BEST explains the primary purpose of mind mapping in the Designing for Growth design thinking approach?

- A. By leveraging the collective intelligence of the core team, this divergent thinking based tool produces a broad variety of ideal design attributes inspired by the context provided by the large collection of information that describe the stakeholders, the problem, and the business.
- B. By leveraging the experience of design consultants, this convergent thinking based tool produces a set of design specifications describing what to build from a large collection of information that describe the stakeholders, the problem, and the business.
- C. By leveraging the collective intelligence of an extended team, this divergent thinking based tool produces a small set of solution concepts from a large collection of information that describe the stakeholders, the problem, and the business.
- D. By leveraging the collective intelligence of an extended team, this convergent thinking based tool produces a set of ideal design attributes from a large collection of information that describe the stakeholders, the problem, and the business.

Question 30 DTFL-3.2.6 K2

Which of the following statements BEST explains the primary purpose of brainstorming in the Designing for Growth design thinking approach?

- A. This facilitated activity, utilizing an extended team and guided by the design criteria and design brief, brings about a large variety of potentially pioneering ideas that will provide the basis of an innovative design.
- B. This free ranging activity, utilizing extended teams of 15 to 20 people, brings about a large variety of potentially pioneering ideas that will provide the basis of an innovative design.
- C. This facilitated activity, utilizing an extended team and guided by the design criteria and design brief, brings about a small set of potentially pioneering prototypes that will provide the basis of an innovative design.
- D. This free ranging activity, utilizing the core team, brings about a large variety of potentially pioneering ideas that will provide the basis of an innovative design.

Question 31 DTFL-3.2.7 K2

Which of the following convergence profiles BEST fits the profile suggested for concept development in the Designing for Growth approach?

- A. 200 ideas converge to 12 concepts which then converge to 3 most promising concepts which then converge to 1 pursued concept

- B. 200 ideas converge to 20 concepts which then converge to 5 most promising concepts which then converge to 2 pursued concepts
- C. 200 ideas converge to 20 concepts which then converge to 1 most promising concept that is then pursued.
- D. 200 ideas converge to 5 concepts which then converge to 1 most promising concept that is then pursued.

Question 32 DTFL-3.2.8 K2

Which of the following unordered sets of Designing for Growth stages BEST reflects the recommended times for when the assumption testing tool could be used?

- i. What wows?
 - ii. What works?
 - iii. What is?
 - iv. What if?
- A. i, iii, iv
 - B. ii, iii, iv
 - C. i, ii, iii
 - D. iii, iv

Question 33 DTFL-3.2.9 K2

Which of the following statements BEST explains the purpose of rapid prototyping within the Designing for Growth approach?

- A. Prototypes are developed as quickly and as thoroughly as necessary in order to achieve critical quality levels that are essential to the current stage of concept maturity by relying on stakeholder testing.
- B. Prototypes are developed as quickly and as thoroughly as necessary in order to achieve critical learning that is appropriate for the current stage of concept maturity by relying on stakeholder interactions.
- C. Prototypes are developed as quickly and as thoroughly as necessary in order to achieve engineering insights that are essential to the current stage of concept maturity by relying on building multiple instances and controlling for integration tolerances.
- D. Prototypes are developed as quickly and as thoroughly as necessary in order to enable marketing campaigns that are essential to the current stage of project funding maturity by relying on recorded stakeholder testing.

Question 34 DTFL-3.2.10 K2

Three people are commonly involved in customer co-creation sessions. Which of the following statements BEST explains the role of each of these people during customer co-creation within the Designing for Growth approach?

- A. One person is a team member who facilitates the session. Two people are stakeholders who respond to questions and interact with prototypes.
- B. One person is a team member who documents the session. Two people are stakeholders who interact with prototypes and discuss observations among themselves.
- C. One person is a team member who facilitates the session. One person is a team member who acts as the stakeholder's advocate. One person is a stakeholder who responds to questions and interacts with prototypes.
- D. One person is a team member who facilitates the session. One person is a team member who documents the session. One person is a stakeholder who responds to questions and interacts with prototypes.

Question 35 DTFL-3.2.11 K2

Which of the following statements BEST describes the conditions to be met prior to performing a learning launch within the Designing for Growth approach?

- A. The fit-for-purpose learning launch prototype is the latest iteration to be influenced by stakeholder feedback. The design criteria document is current with an updated list of critical assumptions to be tested and other information relevant to the learning launch.
- B. The learning launch prototype is near production ready in terms of features and quality. The napkin pitch is current with an updated list of critical assumptions to be tested and other information relevant to the learning launch.
- C. The learning launch prototype is a rough approximation in terms of final features and quality. The design brief is current with an updated list of critical assumptions to be tested and other information relevant to the learning launch.
- D. The fit-for-purpose learning launch prototype is the latest iteration to be influenced by stakeholder feedback. The learning guide is current with an updated list of critical assumptions to be tested and other information relevant to the learning launch.

Question 36 DTFL-3.1.1 K3

A gourmet restaurateur struggling to keep the menu affordable in an economic situation of high labor costs and high rent in London has asked a local d.School to take on his challenge as a senior design project. His challenge is to provide near Michelin star quality of service while cutting back on restaurant staff and possibly reorganizing the dining area.

The d.School students have collected a wide assortment of information about the restaurant, its clientele, the local market, and they need to synthesize this information into helpful insights for upcoming design efforts.

Stages

- A. What is
- B. What if
- C. What wows
- D. What works

Tools

- 1. Visualization
- 2. Journey mapping
- 3. Value chain analysis
- 4. Mind mapping
- 5. Brainstorming

What Designing for Growth stage is the team currently in, and what is the tool that is Most appropriate to evaluate, consolidate and present the data the team is working with? The answers below are pairs of stages and of tools.

- A. A4
- B. B3
- C. C1
- D. D5

Question 37 DTFL-3.1.2 K3

A gourmet restaurateur struggling to keep the menu affordable in an economic situation of high labor costs and high rent in London has asked a local d.School to take on his challenge as a senior design project. His challenge is to provide near Michelin star quality of service while cutting back on restaurant staff and possibly reorganizing the dining area.

The student design thinking team, eager to start prototyping some options after a couple brainstorming sessions, meet in the morning. As they begin to prototype, they struggle to take brainstorming ideas and form them into sensible prototypes. After a few hours of frustration the team breaks up. Several students go to you, their design thinking mentor, for help.

Stages

- A. What is
- B. What if
- C. What wows
- D. What works

Tools

- 1. Mind mapping
- 2. Assumption testing
- 3. Concept development
- 4. Journey mapping

What Designing for Growth stage is the team in? What tool do you recommend they use next instead of rapid prototyping? What stage should they be in to use this tool? The answers below are triples of Current Stage: Recommended Tool: Recommended Stage.

- A. C:3:B
- B. C:2:C
- C. B:1:A
- D. A:4:D

Question 38 DTFL-3.1.3 K3

A gourmet restaurateur struggling to keep the menu affordable in an economic situation of high labor costs and high rent in London has asked a local d.School to take on his challenge as a senior design project. His challenge is to provide near Michelin star quality of service while cutting back on restaurant staff and possibly reorganizing the dining area.

The student team has been busy developing prototypes when you stop by to check in on their progress. Having read the napkin pitches, you have some sense of what each concept the prototypes should be manifesting. After looking at the concept 'Gliding Service,' you notice that the elements of the concept being portrayed in a storyboard was missing a crucial method element relating to seating customers.

Stages

- A. What is
- B. What if
- C. What works
- D. What wows

Napkin Pitch Sections

- 1. Needs
- 2. Benefit
- 3. Competition
- 4. Approach

What Designing for Growth stage is the team MOST likely in? What section of the 'Gliding Service' napkin pitch would you direct their attention to? The answers below are pairs of Current Stage: Napkin Pitch Section.

- A. C:1
- B. D:2
- C. D:3
- D. D:4

Question 39 DTFL-3.1.4 K3

A gourmet restaurateur struggling to keep the menu affordable in an economic situation of high labor costs and high rent in London has asked a local d.School to take on his challenge as a senior design project. His challenge is to provide near Michelin star quality of service while cutting back on restaurant staff and possibly reorganizing the dining area.

The restaurateur feels the student design team has developed several promising prototypes, but he is concerned about logistics and customer satisfaction. Before allowing the remaining prototypes to be narrowed down to one, he asks the team to rearrange the restaurant and role play along with his most loyal customers while he tries to operate within each scenario.

Stages	Documents	Tools
A. What is	I. Napkin pitch	1. Assumption testing
B. What if	II. Learning guide	2. Learning launch
C. What wows	III. Design criteria	3. Concept Development
D. What works	IV. Design brief	4. Customer co-creation

What Designing for Growth stage is the team MOST likely in? What type of document should the team update as the lessons from these experiments are learned? What tool is the team using in this scenario? The answers below are triples of Current Stage: Document: Tool being used.

- A. D:III:2
- B. D:II:4
- C. C:III:4
- D. C:I:1

Question 40 DTFL-3.3.1 K4

You work for Personal Transport Devices Ltd., which makes bicycles, scooters, skateboards and any other self-powered or electrically assisted device that moves a person reliably and is easily stored. You have been asked to develop a rental scooter that can be picked up and dropped off at publicly accessible locations of the customer's choosing for European urban markets.

Note: In order to frame this question with recognizable approaches, the Designing for Growth approach is assumed to have been adopted by Personal Transport Devices Ltd. in this scenario.

The learning launch named 'Endspurt Eins' was conducted in the Charlottenburg and Spandau boroughs of Berlin. The learning launch was moderately successful. There were a number of suggestions on how to adapt the rental scooter to Berlin's cultural, regulatory and environmental climate. The customer co-creation activities were performed in Paris. Learning launch results from Berlin show European urban-universality is a poor assumption as it relates to this rental scooters.

The new products leadership has reviewed your report and took in your presentation on 'Endspurt Eins.' The leaders' mood was favorable. They considered most of the issues related to services that can be easily customized. As you leave the meeting, you hear the leaders discussing a London rollout in time for next spring.

What design thinking considerations would you point out to the leaders for rollout planning?

- A. Despite the few glitches in Berlin, convenient rental of bicycles is popular in a number of urban areas including New York City. Scooter rentals should work the same way, which many of the Berlin results show. London should not be a problem for the current design of the scooter.
- B. Personal Transport Devices Ltd is a well known brand in London. We have 50% market share of commuter bicycles. A scooter offering from us should be well regarded and successful. No one else has the economies of scale to provide half the features of scooter prototype. So long as at least half of the features are present, this product will swamp the competition.
- C. Clearly the Berlin and Paris efforts show that the design thinking effort produced results that cannot be generalized. The project yielded some interesting ideas that should be preserved as long as the commercial design team does not need to change them to make the product deliverable and supportable.
- D. The Paris and Berlin experiences have shown that what works for one city may not work elsewhere. Regulation alone could cause the scooter design to change. These changes may influence user experience. The lessons learned from co-creation and the learning launch should strongly influence product management as they prioritize requirements and evaluate commercial designs and engineering prototypes for London.