INTRODUCTION

ABOUT THIS BOOK

ARE 5 Practice Problems for the Architect Registration Exam contains over 550 problems organized into six divisions that follow the structure of version 5 of the Architect Registration Exam (ARE 5).

- Division 1: Practice Management
- Division 2: Project Management
- Division 3: Programming & Analysis
- Division 4: Project Planning & Design
- Division 5: Project Development & Documentation
- Division 6: Construction & Evaluation

The problems presented in ARE 5 Practice Problems encompass a range of architectural topics focusing on the topics that appear on the ARE 5. Recent developments in architecture and construction in a number of areas are covered on the exam and in this book, including

- building commissioning
- business development and operations
- concrete reinforcement
- conformance with sustainability requirements
ARE 5 PRACTICE PROBLEMS

- construction manager as adviser or constructor
- contract documents for sustainable projects
- contractor selection
- cost control
- curtain walls
- design-build project delivery
- elevator design
- environmental context
- ethical standards
- financial management
- human resources
- integrated project delivery
- integrating building systems
- mechanical rooms
- office organization
- paving
- planning construction documentation
- plenum requirements
- post-occupancy evaluation
- practice methodologies
- project delivery methods, execution, follow-up, planning, and management
- quality control
- supplemental contract documentation
- sustainable materials
- value engineering
- weather barriers
- wood framing

The problems in this book reflect the most recent editions of a number of codes and standards, including

- 2007 AIA Contract Documents
- 2009 SectionFormat
- 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design
- 2013 LEED Rating Systems
- 2014 ACI 318, Building Code Requirements for Structural Concrete
- 2014 National Electrical Code (NFPA 70)
- 2015 International Building Code
Although this book can be a valuable study aid in itself, it is designed to be used in conjunction with PPI’s ARE 5 Review Manual for the Architect Registration Exam and ARE 5 Practice Exam for the Architect Registration Exam.

EXAM PROBLEM TYPES
There are several types of problems on the ARE 5 and in this book.

- multiple-choice problems
- check-all-that-apply problems
- fill-in-the-blank problems
- hot spot problems
- drag-and-place problems
- case study problems

Multiple-Choice Problems
Multiple-choice problems have two types. One type of multiple-choice problem is based on written, graphic, or photographic information. You will need to examine the information and select the correct answer from four given options. Some problems may require calculations. A second type of multiple-choice problem describes a situation that could be encountered in actual practice. Drawings, diagrams, photographs, forms, tables, or other data may also be given. The problem requires you to select the best answer from four options.

Multiple-choice problems often require you to do more than just select an answer based on memory. At times it will be necessary to combine several facts, analyze data, perform a calculation, or review a drawing.

Check-All-That-Apply Problems
Check-all-that-apply problems are a variation of a multiple-choice problem, where six options are given, and you must choose all the correct options. The problem tells how many of the options are correct, from two to four. You must choose all the correct options to receive credit; partial credit is not given.

Fill-in-the-Blank Problems
Fill-in-the-blank problems require you to fill in a blank with a value that you have derived from a table or a calculation.

Hot Spot Problems
Hot spot problems are used to assess visual judgment, evaluation, or prediction. Hot spot problems include the information needed to make a determination, along with an image (e.g., diagram, floor plan) and instructions on how to interact with the image. The problems will indicate that you should place a single target, also known as a hot spot icon, on the base image in the correct location or general area. On the exam, you will place the target on the image by moving the computer cursor to the correct location on the image and clicking on it. You will see crosshairs to help you position the point of click. You will be able to click on an
alternate spot if you think your first choice is not correct. Your choice is not registered until you exit the problem. You can click anywhere within an acceptable area range and still be scored as correct.

Drag-and-Place Problems
Drag-and-place problems are similar to hot spot problems, but whereas hot spot problems involve placing just one target on the base image, drag-and-place problems involve placing two to six design elements on the base image. Drag-and-place problems are used to assess visual judgment or evaluation with multiple pieces of information. The problem statement describes what information is to be used to make the determination, and provides instructions on how to interact with the image or graphic item.

A drag-and-place problem, for example, may require you to drag and place design elements such as walls or beams onto the base image. On the exam, you will use the computer cursor to place the elements on the image by clicking and holding elements and dragging and releasing the elements on the correct location on the image. Depending on the question, you may use an element more than once or not at all. This type of question also provides an acceptable area range for placing the elements. The range may be small for questions about a detail or large for something like a site plan.

Case Study Problems
Each division’s exam includes one to two case studies. Case studies are performance problem types comprising a scenario, a set of related resource documents (for example, code resources, drawings, and specifications), and a set of case study-specific problems. During the exam, you will be able to click on browser-like tabs at the top of the computer screen and flip back and forth between the case study scenario and resource documents. The case studies will test your ability to examine and use multiple pieces of information to make decisions about scenarios that could be encountered in the practice of architecture.

Case study problems may be multiple-choice, check-all-that-apply, fill-in-the-blank, hot spot, or drag-and-place.

HOW TO USE THIS BOOK
As you work the problems, you will prepare for the ARE 5 in the most effective way possible. The problems were written to highlight your areas of strength, as well as identify areas needing further study. Should you have difficulty with a topic, an explanation may be found in the corresponding chapter of the ARE 5 Review Manual. Incorrect answers enlighten by showing you common mistakes, and the steps necessary to arrive at correct answers are thoroughly documented. When you take full advantage of the practice problems and solutions, you will gain knowledge that is essential for peak performance on your exam.

If you are using this text to practice a particular area of study, go directly to the topic of interest and begin. Any weakness noted while attempting to solve the problems should prompt you to review the applicable material in the ARE 5 Review Manual. Keep in mind that the key to success on the exam is to practice solving problems.

Allow yourself time to prepare. You will get the most benefit out of your exam preparation efforts if you make a plan and stick to it. Make sure that as you review chapters in the accompanying ARE 5 Review Manual, that you also leave enough time to work the problems associated with those chapters. You should revisit practice problems during your exam preparation. Even if you successfully worked all the problems in a given chapter upon your initial review, you must maintain that knowledge as you work through unfamiliar or difficult material.

Although there is no substitute for a good formal education and the broad-based experience provided by your participation in the Architect Experience Program (AXP) with a practicing architect, this book, and the others in PPI’s ARE 5 review series, will help you direct your study efforts to increase your chances of passing the ARE 5.