

Example Exam Solutions

This text will only be printed if solutions are being printed. It might include general instructions for graders.

Question	Points	Score
Basic question with no parts	4	
Basic question with parts	5	
Question with a solution	2	
Including R code	3	
Question with math	3	
Question with parts and solutions	5	
Question with subparts and subsubparts	12	
Multiple choice question	1	
True/False questions	3	
Multiple choice questions with multiple columns	0	
Including files	5	
Total:	43	

Basic Questions

1. *Basic question with no parts* (4 points in total)
This demonstrates a simple question with a title. It has been assigned 4 points.
2. *Basic question with parts* (5 points in total)
This demonstrates a question with parts. Here, we will assign the points to the parts, and LaTeX will then automatically calculate the total number of points for the question. (The same works for subparts and subsubparts!)
 - (a) (3 points) This is the first part, worth 3 points.
 - (b) (2 points) This is the second part, worth 2 points.

Including solutions and leaving space for answers

You can include solutions to questions or parts by using the ‘solution’ environment.

To print the solutions, render the document with the examclass-pdf+solutions format option.

If you include an optional space parameter when you write a solution, LaTeX will automatically leave that amount of blank space after the question when solutions are *not* being printed. This is useful if you want to leave space for students to write their answers.

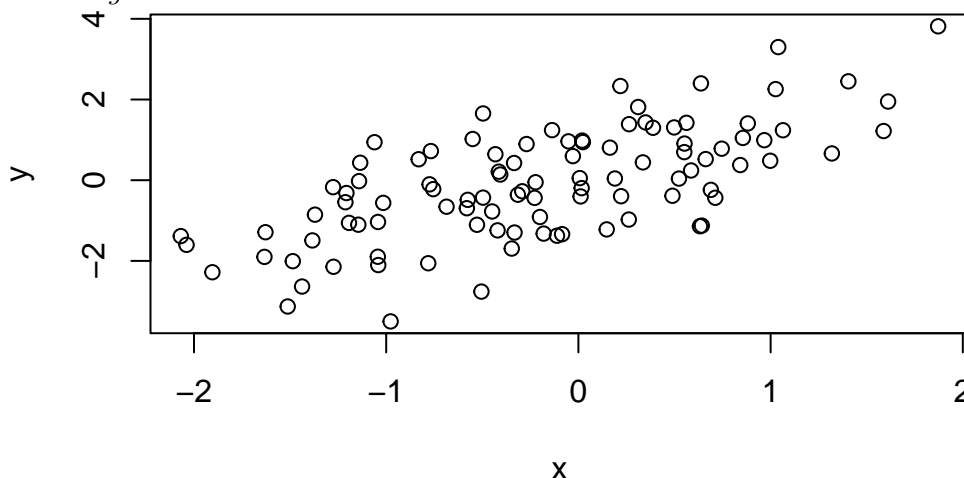
3. *Question with a solution* (2 points in total)
This is a simple question worth 2 points. There are two inches of space after this question when solutions are not being printed.

Solution: This is how you include a solution for a question. It will only appear when answers are printed.

RMarkdown

You can include R code in your exam and solutions.

4. *Including R code* (3 points in total)



Estimate the mean of \mathbf{x} .

Solution: We can find the mean of `x` using the `mean` function.

```
mean(x)
```

```
[1] -0.189334
```

Math

You can include math in your exam and solutions using LaTeX syntax.

5. *Question with math* (3 points in total)
What is the value of $\int_{\pi/2}^{\pi} \frac{1}{x^2} dx$?

Solution: We can find the value of this integral using the `integrate` function.

```
integrate(function(x) 1/(x^2), pi/2, pi)
```

```
0.3183099 with absolute error < 3.5e-15
```

Question parts

6. *Question with parts and solutions* (5 points in total)
You can add parts to a question using the `parts` environment. If you assign points to the parts, the total number of points for the question will be calculated automatically.

You can add solutions to the individual parts of a question.

- (a) (2 points) This is the first part .

Solution: This is the solution to the first part.

- (b) (3 points) This is the second part.

Solution: This is the solution to the second part.

7. *Question with subparts and subsubparts* (12 points in total)
Questions can have subparts and subsubparts.

- (a) (2 points) This is a part without any subparts.
(b) This is a part with subparts.
 i. (2 points) This is a subpart.
 ii. (3 points) This is another subpart.
 α (3 points) This is a subsubpart.
 β (2 points) This is another subsubpart.

Standard Exam Class Question Types

8. *Multiple choice question* (1 points in total)
- We can include multiple choice questions with the `choices` environment. The correct answer can be specified with the `\CorrectChoice` command, and it will be highlighted when answers are printed.
- ☐ This one
 - ☐ That one
 - ☒ **This correct one**
 - ☐ Another one

Solution: If we want to provide more to the solutions than simply stating the correct choice, we can still do that.

Additional Question Types included with Quarto Exam Class

These question types are defined in the ‘examadditions.sty’ file, which is added to your directory automatically when you render a document using the Quarto Exam Class template.

9. *True/False questions* (3 points in total)
- You can easily add true/false questions to your exam. For each item, you’ll give the statement and whether it is true or false. The correct answers will show up when solutions are printed.

	True	False
This statement should be true	<input checked="" type="checkbox"/>	<input type="checkbox"/>
This statement should be false	<input type="checkbox"/>	<input type="checkbox"/>

10. *Multiple choice questions with multiple columns* (0 points in total)
- You can include multiple choice questions with the `multicolcheckboxes` environment.

- ☐ This is a choice
- ☐ This is yet another choice
- ☒ **This is another choice**

Including other files

You can include other LaTeX files in your exam using the standard LaTeX `include` command, or other Quarto files using Quarto’s `include` shortcode.

11. *Including files* (5 points in total)
- Select all the TRUE statements below.

	True	False
Files cannot be included in an exam.	<input type="checkbox"/>	<input type="checkbox"/>
Files can be included in an exam using the ‘include’ command.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Files can be included in an exam using the quarto ‘include’ shortcode.	<input checked="" type="checkbox"/>	<input type="checkbox"/>