

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2018

Subject CP3 – Communications Practice

Introduction

The Examiners' Report is written by the Principal Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

Michael Hammer
Chair of the Board of Examiners
December 2018

A. General comments on the *aims of this subject and how it is marked*

Subject CP3 consists of two parts as follows:

1. Written communication (90 marks)

Produce a written piece of communication that explains a scenario that may typically be faced by an actuary in their day to day work. This communication will be aimed at a non-actuary, although the target audience's level of financial knowledge and understanding will vary from question to question.

The communication needs to be of a standard that it would be acceptable as a first draft. It is important that the recipient would both understand the communication and be satisfied with the response. The marking schedules include details of the marks awarded for including the necessary content. To the extent that it makes the communication unclear or confusing for the audience, marks may also be lost for including irrelevant content or details that candidates have specifically been asked to exclude from their solution.

2. Reflective questions (10 marks)

A set of questions designed to allow students to consider the approach that they took in their communication and justify certain decisions. For example, students may be asked what information they felt was relevant for this audience, or which terms they specifically excluded because they would constitute jargon.

Students are provided with some background reading a few days before the exam (the Scenario Material) to allow them to familiarise themselves with the scenario without being under exam conditions. Students are expected to read the information provided, but are not required to do any further reading or research around the scenario.

B. Comments on *student performance in this diet of the examination.*

Students were asked to draft a letter to a policyholder, whom we must assume has no specialist financial knowledge. The key to ensuring that this piece of communication was fit for purpose was therefore to address the concerns that were raised by the policyholder in simple and clear language that required no prior understanding of the way insurance premiums are calculated.

Students generally scored well on the basic drafting skills, such as laying out the letter with a clear title and the correct number of sections. However, the quality of visual aids (in this case a table rather than a graph) varied significantly between students. Some students copied tables directly from the scenario material with no attempt to customise the information, and some did not include a table. Students who scored well here generally used a simple table to summarise the steps of the calculation and provide a clear comparison between the expected premium and the final premium.

Students who scored poorly on the content section generally did so for one of two reasons.

1. They did not go into enough detail to actually address the policyholders concerns. In doing so they did not attempt to explain concepts such as BMI or the differences between smoker statuses.
2. They did explain concepts such as BMI, but assumed too much prior knowledge. For example, writing “height^2” when explaining the BMI calculation, or using the term “loading” with no explanation.

Students who scored well in the content section gave clear but comprehensive explanations of these concepts that were aimed at the layperson.

Question two was generally well answered by students. However, in some cases students did not apply the concepts that they wrote about in question two to their letter in question one. For example, correctly identifying that the audience would not necessarily understand complex formulae in question two, but including this in the letter in question one. This highlights the importance keeping questions like those typically asked in question two in mind when planning for question 1.

C. Pass Mark

The Pass mark for this exam was initially set at 60. However, due to technical issues with the delivery of the exam, most students did not receive the paper until around 20 minutes after the exam had officially started. An email was sent to students informing them that the deadline for submitting scripts would be extended to ensure they had the full three hours to complete the exam, but not everyone received this. While CP3 is not designed to be a time-pressured exam, it is acknowledged that this situation will have potentially affected the performance of students. To reflect this, the Exam Board decided to reduce the pass mark by two marks to 58.

Example solution

Below is an example solution which would be considered a pass by the examiners. Note however, that this is not intended to be a perfect solution.

Part 1

<ProtectMe Corporate heading including company address >

15 October 2017

<Customer Address>

Dear Miss Newcomber

Re: Premium query for plan number A987123Z

Thank you for your letter addressed to our Customer Relations Team dated 8 October 2017. This has been referred to me in my capacity as New Business Actuary. I appreciate your concerns about the level of your premium, but I would like to assure you that there has been no error. I will explain below how we set your premium, why you are classified as a class 1 smoker, and why your premium is higher than the premium you anticipated.

Premiums for Life Assurance

We set our standard premiums based on a typical group of customers. It is our standard premiums which appear on price comparison sites such as GetmelifeQuotes. All customers applying for insurance cover are asked the same questions in a process we call underwriting. It is the answers to these questions that determine whether customers fit the typical profile and can be charged standard premiums. Answers that indicate a customer falls outside the typical profile suggest that a claim is more likely to be paid. To reflect this such customers are charged higher premiums.

The formula used for all our premium calculations is:

$$\begin{aligned}\text{Final premium} = & \quad \text{“amount of cover”} \\ & \times \text{“standard premium”} \\ & \times \text{“smoker multiple”} \\ & \times \text{“health multiple”} \\ & \times \text{“history multiple”} \\ & + \text{“plan fee”}\end{aligned}$$

Each of these elements are described below:

amount of cover – the amount we will pay if you die within the term of your policy

standard premium – the cost per month of \$1 of cover for a customer who fits the typical profile. This person will be a non-smoker in good health with a healthy family history.

Plan fee – a charge levied on all policies to cover our expenses.

The “multiples” shown in the formula are adjustments for customers who fall outside the typical policyholder profile. These are:

Smoker multiple – smoking causes a variety of conditions which make a claim on the policy more likely. For a non-smoker the multiple is 1 so the premium is not increased.

Health multiple – this depends on your body mass index (BMI). It is your weight in kilograms divided by your height in metres and divided again by your height. We round this up to the next whole number and apply set multiples for different BMIs. For BMI 18 to 24 the multiple is 1.

History multiple – some illnesses are known to run in families, and being at a higher risk of one of these makes it more likely that you will claim. Those with no history of such deaths have a history multiple of 1.

The premium quoted on the comparison site of \$7.50 for \$100,000 was calculated using this formula as:

$$\text{Premium} = 100,000 \times 0.000050 \times 1 \times 1 \times 1 + 2.50 = 7.50$$

Factors ‘smoker multiple’, ‘health multiple’ and ‘history multiple’ are all 1 because no personal details are input on the comparison site and so a typical profile is used. \$2.50 was the plan fee when you used the comparison site.

Smoker status and e-cigarettes

To be considered a non-smoker you must not have used any tobacco product or substitute such as e-cigarettes. At ProtectMe, class 1 smokers are those like yourself who have only ever used e-cigarettes. ProtectMe has other classes of smoker for those who have or continue to use tobacco products. All these categories lead to higher premiums than those charged for class 1 smokers.

ProtectMe is unique in this approach. Other insurers will charge e-cigarette users the same price that they charge smokers. We recognise that whilst the long-term effect of using e-cigarettes is uncertain, there is evidence that it is less harmful than the use of tobacco products.

Why your final quote is higher

Your premium is calculated on the date we received on your application..

Reasons for the increase are:

- You are one year older when your policy began
- We changed our prices on 5 September which resulted in an increase to the standard premium but reduced the plan fee
- We use your actual personal circumstances, which gives you a higher health multiple based on your BMI of 38, and a higher smoker multiple.

In the table below are the factors used on the comparison site at the date you ran your initial quote, and the final factors used to calculate your premium.

Date	Amount of cover	Standard premium	Smoker multiple	Health multiple	History multiple	Plan fee	Monthly premium
01.09.17	100,000	0.000050	1	1	1	\$2.50	\$7.50
01.10.17	125,000	0.000055	1.35	1.25	1	\$2.25	\$13.85

Summary

There has been no error in the calculation of your premium. The premium quoted on the comparison site was correct at the time for standard policies but did not take account of your personal circumstances. The premium applicable to you is higher primarily due to these circumstances.

I trust my explanation is satisfactory but if you have any further questions, please let me know. Alternatively contact our relations team on 0123 999999.

Yours sincerely

AN Actuary

Part 2

- a) I have avoided complex mathematical formulae and not introduced the term squared or used powers as I do not know the level of mathematical ability of the customer. I have provided a numerical example of how the comparison site figure was derived to illustrate the formula I supplied.
- b) I have not used details of the reinsurance treaty as supplied in the advance material as whilst the reinsurer assists in the underwriting process, the customer is unaware of the reinsurer and it would be confusing to introduce it.

I have not directly referred to the article by J Penn as offering extra reading would not help the customer, and I cannot vouch for its reliability.

I have not referred to alternative products such as decreasing term assurance as I do not know whether this would meet the need of the customer or her mortgage provider.

I have not used the details of the business results and distribution channels. Miss Newcomer has already selected and bought a product so offering ways to buy is not relevant to her.

- c) I have acknowledged that the customer is alarmed at the final premium but offered immediate reassurance there is no error.

I have not referred to labels such as 'obesity' or direct reference to her actual weight and have instead used calculation of Body Mass Index.

- d) Underwriting: I have used this term but related it to the detail we request in our proposal form.

Loading : The supplied material refers to loading. Instead of talking about loadings and extending the formula to include factors like $(1+x/100)$, I simplified this so it is just a multiple as I think a member of the public would more easily follow this.

Mark Scheme

Q1

Document format

Clearly addressed to Miss Newcomber (Other forms of name are acceptable as long as sufficiently formal for a letter of this type, e.g. Angela Newcomber is acceptable, but just Angela would not be)

[1]

Suitable title to document

[½]

Including policy number

[½]

Date

[½]

and author

[½]

[Max 3]

Planning and presentation

Grouping of ideas

Document is grouped into an appropriate number of sections (excluding introduction and summary)

3-5 sections

[2]

2 or 6 sections

[1]

Otherwise

[0]

Logical order of points

Logical order between sections. When awarding marks here, consider the overall heading and purpose of the section rather than the content within it.

Read once and clear

[2]

Needed to re-read parts

[1]

Otherwise

[0]

Logical order of points within each section. When awarding marks here consider the order of points within each section.

Read once and clear

[3]

Needed to re-read parts

.....[2-1]

Otherwise

[0]

Points within each section are directly relevant to the heading

[1]

Appropriate short headings on each section.

All headings are short and appropriate

[2]

One heading is long or doesn't succinctly describe what follows

[1]

More than one heading is long or doesn't succinctly describe what follows

[0]

Sentences kept brief.

No overly long sentences exist

[2]

One overly long sentence exists

[1]

More than one overly long sentence exists

[0]

[Note to marking team: The principle is that a sentence containing more than one message or too many sub-clauses is too long. Or, if spoken, needs repeated breaks to articulate.]

[Max 12]

Format of visual aids

Tables

Mark only the best table.

The table is appropriate and tailored for the audience [2]

[Note to marking team: Only a relevant subset of the data provided in the scenario material is included.]

Tables should be clear:

Well labelled (for example currency where appropriate) and free of jargon
(e.g. age next birthday) [1]

Consistent format (eg alignment) [1]

No marks should be awarded for tables that are copied exactly from the scenario material

Graphs

No graph included (as per instruction in question) [1]

[Max 5]

[Total 20]

Language used

Overall language

Language used is simple and will be easily understood by the policyholder.

If the document is understandable as a whole [5]

If up to two points need to be redrafted[4-3]

If three to four points or one section needs to be redrafted[2-1]

If more than four points or more than one section needs to be redrafted [0]

Professional tone avoid comments which “talk down” to the policyholder or comments which are derogatory about competition [1]

Avoid colloquialisms, informal and/or emotive language (eg stating the customer as being obese or fat would be emotive) [1]

[Max 7]

Jargon and terminology

Absence of technical terms.

If there are no terms present which are too technical for the recipient [4]

If there is one unexplained technical term [2]

If there are two or more unexplained technical terms [0]

A list of jargon terms is supplied below which will include unnecessary technical terms where a simpler term exists, terms and/or abbreviations which may be acceptable but are unexplained.

[Max 4]

Superfluous accuracy of numbers (such as too many decimal places) is avoided.

If all numbers quoted use an appropriate level of accuracy [3]

If up to two numbers quoted in the text or up to six numbers in a table have been quoted with excessive accuracy[2-1]

If more numbers have been quoted with excessive accuracy [0]

[Note to marking team: If there are no figures in the document then the student should be awarded 3 marks.]

[Max 3]

Absence of irrelevant points of content.

If no irrelevancies [5]

If one irrelevant point [3]

If two irrelevant points [1]

If more than two irrelevant points [0]

Examples of irrelevancies might include:

reference to reinsurance

the specific article from the press

references to other products (eg critical illness, decreasing term assurance)

references to ProtectMe’s business strategy

excessive detail on government health notice (eg referees to cancer)

anything advising the policyholder on what to do

any offers that are made to the policyholder (e.g. to give them a discount).

[Max 5]

Grammar, spelling and punctuation (Up to 3 marks)

If no significant grammatical, spelling or punctuation errors [3]

If one error [2]

If two errors [1]

If more than two errors [0]

Each “error” should be significant enough to compromise the professionalism of the document or require sections to be redrafted and minor errors can be ignored (though many minor that would take time to remedy should be penalised).

[Max 3]

[Total 22]

Content

Marks shown are to be awarded for each item of content identified in the candidate’s answer. To be credited with the mark(s) the point needs to be clear and understandable. However, points that require only minor adjustment should be credited.

Markers should use discretion when there is more than one mark for a point, awarding part marks to reflect the level of clarity.

Markers should also use their discretion when considering clarity to ensure that, for example, candidates who cover most of the content items, but not very clearly, are still given some credit, rather than penalised for every point made.

It is acknowledged that there is potentially more than one approach to successfully answer the question. Students may give a full explanation of the premium calculation (see section 5 below), or may use the premium from the comparison site as a starting point and explain the changes needed to arrive at the policyholder’s actual premium (see section 6 below). There are more than 40 marks available in the content section to allow for the fact that different approaches are possible. Marks for content should be capped at 40.

1 Introduction

State source of the letter (ie referred from elsewhere) [1]

Assurance that the figures provided / the premium charged are/is correct. [1]

Clearly shows signposts of what the policyholder wants addressing	
How the premium charged was determined (either absolutely, or relative to the original illustration)	[1]
Why customer is a 'smoker'	[1]
Why the premium has increased	[1]

2. Comparison Site

Uses no personal circumstances (other than age)	[1]
Assumes users are 'standard' lives	[1]
Explanation of what standard life is (e.g. health BMI, non-smoker)	[1]

3. There are additional factors taken into account for final price

Quote is personalised	[1]
Personal details from application form are used to assess risk	[1]
Where something indicates someone is more likely to claim premiums are increased to reflect this	[1]

4. The following key points should be clearly explained

Smoker status

Definition of what class1 smoker means	[1]
Confirmation client is therefore class 1 and so charged a higher premium	[1]
ProtectMe has other classes of smoker	[1]
Stating that having a separate category of e-cigarette user only is unique to ProtectMe	[1]
Impact/difference in health outcomes of e cigarettes when compared to smokers not yet entirely proven	[1]
Though there is evidence coming from research that it is less harmful than tobacco products	[1]

BMI

Explanation of BMI in general terms (does not need to specifically mention BMI, as long as weight as a function of height is mentioned e.g. weight when compared to people of the same height)	[2]
The policyholder's weight or BMI is considered higher than someone who is in ideal health	[1]
...therefore premiums are increased to take account of this	[1]

Age

Older policyholders will be charged a higher premium to reflect the chances of making a claim	[1]
Policyholder has passed their birthday since first quote	[1]
...therefore, their premium has increased to reflect their current age	[1]

Other factors

Explain prices have been reviewed	[1]
This has led to an increase overall	[1]
...though there is a reduction to the plan fee	[1]
Adjustment to the full sum assured of £125,000	[1]

5. Explanation in generic terms how a premium is calculated

Numeric example / explanation to show how comparison site quote derived	[1]
Numeric example / explanation to show how premium charged derived	[1]
Relevant factors (fully explained)	

Sum Assured (include definition)	[1]
Smoker definition	[1]
Family history	[1]
Assurance (age-related) factor	[1]
BMI	[1]
Derivation of BMI	[1]
Plan fee	[1]

6. Numerical example of the change in premium between the comparison site and the final quote

Clear step through of the key factors that led to a change in price with the underlying figures [9]

The following shows a breakdown of the change in premium from the price comparison site to the final premium. Note the loadings do not need to be stated in the student's solution, but should be correct if they are stated.

Price comparison premium	7.50	
Less Plan fee of	2.50	
Total without plan fee	5.00	
	Loading	Price change \$
Smoking	1.35	1.75
BMI	1.25	1.69
Price change	1.08	0.68
Age change	1.02	0.17
Sum assured	1.25	2.32
New total without plan fee	11.60	
New plan fee	2.25	
Total premium	13.85	

Each change should have a clear explanation. Start with 9 marks and deduct 1 mark for each incorrect or poorly explained step (min zero). Note that the \$ amount in the “price change” column may differ if the steps are calculated in a different order, but the total should always add to the same figure.

[Max 9]

7. Summary, close to letter

The premium charged is correct [1]

Higher premium is mainly due to personal circumstances [1]

...which have come to light following completion of the full application form [1]

Offer for further help/assistance [1]

[Total 40]

Meeting of Objectives

The policyholder and the person reviewing the document before it is sent are likely to be satisfied with the answer

6-8 marks if:

If the Policyholder is likely to be completely satisfied that their questions and concerns have been appreciated and fully addressed.

The communication is clear and easy to read, and flows throughout to a suitable conclusion.

It looks organised and neat and uses an appropriate tone, leaving a positive impression. There are no statements or promises that paint the company in a bad light or that it is unlikely to actuary has the authority to make (e.g. promising a discount). There is no financial advice.

3-5 marks if:

The policyholder questions are only partially answered.

The answer is partially understandable but the answer does not flow well. There are no more than 2 visual errors or anomalies in the response. There are some technical terms/abbreviations that are undefined. There may a statement that would be unsuitable from the point of view of the company's professional or commercial image.

0-2 marks if:

The policyholder is left with a poor impression of the responder, is confused by the answer and/or does not trust the answer.

For example, disjointed response, inconsistent formatting, inappropriate address (eg Dear Angela) and tone is informal and causes offensive. The answer may also include advice for the policyholder.

[Max 8]

[Total 90]

Q2

a) Explain how you have given details of the calculation in a manner that the policyholder will understand.

Avoided complex maths [1½]

...such as powers (squared) [1½]

...as mathematical ability of the policyholder is unknown [1½]

Supplied a numerical example to show how the formula works in practice [1½]

Stated the \$ amount of each impact [1½]

...to avoid having to use complicated formulae [½]
Avoided brackets in the formula [½]
...and used 'x' for multiply rather than * as this will be more familiar to someone with only a basic level of maths [½]
[Max 2]

b) State which data you decided not to use (from either the advance material or question paper), giving the reason for its omission.

...for the piece of data [½]
...for a valid reason [½]

Only credit the highest scoring pieces of data (ie a list of eight data items with no explanation would score 2 marks)

Not suggested further reading to the policyholder [½]

eg the article by J Penn so as not to overwhelm her with detail that she does not need [½]

Not used reference to reinsurer or reinsurance in the underwriting process [½]

...to avoid confusion - this is not relevant and the audience is unlikely to be familiar with the concept of reinsurance [½]

Not mentioned decreasing term assurance [½]

...as may not suit her need or been allowed by her mortgage provider and could constitute financial advice [½]

No reference to distribution channel [½]

...as Miss Newcomber has already bought a product and this will just confuse her [½]

[Max 4]

c) Explain, using TWO examples, how you have demonstrated sensitivity in handling the policyholder's complaint.

Avoided saying she 'is overweight' (implied personal judgment) or obese (emotive), but instead referring to doctors/medical profession 'guidance' on weight/BMI [1]

Showing appreciation of concerns and offering explanation in the introduction part of the letter. [1]

[Max 2]

d) State which actuarial terms or concepts you have used which might be considered jargon, indicating how you ensured that the policyholder will be able to understand them.

Underwriting : include explanation of how this relates to detail supplied at the application stage [1]

Loading : setting the formula in terms of a multiple [1]

Compounding: did not refer to compounding, but instead just explained that the factors were multiplied together [1]

[Max 2]

[Total 10]

NOTE: alternative marks will be credited where appropriate but must relate to the actual answer written by each candidate.

Jargon	Possible jargon
Reinsurance / quota share	loading
Distribution channel	Multiplier
Mortality factor	BMI
Base rate	Sum assured
Age next	Single life
Platforms (for websites)	* (for multiply)
Risk factor	Repriced
Rating factor	Decreasing term assurance
2 (for 'squared')	Level term assurance
Proprietary	Critical Illness
Non-integer	underwriting
	Family history
	Squared
	Lifestyle factors
	Base premium

END OF EXAMINERS' REPORT