Essential Skills Wales

Essential Application of Number Skills (EAoNS)

Level 3 Controlled Task

Candidate Pack

Raising Fitness Levels

Version **2.3**
Sample (Set A)

Instructions

- Fill in the candidate information boxes below.
- Complete **all** parts of the task.
- Sign and date the declaration on the next page when you have completed the task.

Candidate name:
Candidate number:
Date registered for EAoNS:
Unique Learner Number (ULN) *(if applicable)*:
Centre name *or* number:

You have up to **8 hours in total** to complete this controlled task.
The total time can be split over a number of sessions.
Details of when each session started and ended **must** be recorded below:

Date controlled task **started**:							
Date controlled task **completed** *(no more than eight weeks later)*:							
Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
	Date	*Date*	*Date*	*Date*	*Date*	*Date*	*Date*
Duration	*Duration*	*Duration*	*Duration*	*Duration*	*Duration*	*Duration*	*Duration*
Total time spent:			Supervisor signature:				

If more than eight sessions are required, any further dates/durations should be recorded on a separate sheet.

Produced jointly by the four Essential Skills awarding bodies:
Agored Cymru
City & Guilds
Pearson
WJEC

City & Guilds
A City & Guilds Group Business

This task pack contains a scenario, a set of instructions and source material.

- Read the scenario, instructions and source material carefully before you start.
- You will be supervised throughout your time working on this task.
- You can use most of the equipment normally available to you in a real-life situation, including internet access.
- All work submitted must be **entirely** your own. You are not allowed any help with the skills that are being assessed through this controlled task.
- Hand in all of your work at the end of **each** session. You are not allowed to take any task materials away with you, or have access to these between sessions.
- Sign and date the declaration below when you have completed the task.

Candidate declaration

I confirm that this controlled task is entirely my own work and it was completed during the supervised sessions stated on the front page.

Candidate signature: _____ Date: _____

Task instructions: Raising Fitness Levels

What you need to find out

Scenario

You work on a project to improve people's health and fitness. You have been asked to select a group of people to take part in suitable exercise classes, and calculate how many people can be accommodated in the space available.

The aims of this task are to:

- select a suitable group of people in one region to take part in the classes
- provide information about a target heart rate people should aim for during exercise, and choose an activity for the people in the group
- calculate the maximum number of people that can be accommodated in the room in your chosen region
- make a brief report on your findings.

Use the sources provided.

What you need to do

Part 1

Read through the task and source materials.

Make a structured plan to show how you will do this task.

You must include:

- the information you will use from the source materials
- which calculations you choose to do, from a range of possible calculations
- a justification for your choice of **at least two** of your methods
- how you will present the results for Part 2 and Part 3.

(Total for Part 1: 4 marks)

In **Part 2, Part 3 and Part 4**, you must:

- show all the calculations you do. If you use a calculator, make a note of what you put into the calculator. If you use a spreadsheet, make a note of the numbers and the formulas you use.
- give your answers to a suitable level of accuracy.

Remember to check your calculations.

Part 2

You need to choose one region for the exercise classes: North, South, West or East.

You also need to select a suitable group of people to take part in the exercise classes in your chosen region.

You must:

- use statistics to compare the weekly amount of exercise and the body mass index (BMI) of two groups of people in your chosen region
    - people aged 18 to 39
    - people aged 40 years or more
- present your results in a suitable way
- choose one age group to take part in the exercise classes. Use the results of your calculations to justify your choice.

Remember to check your calculations.

(Total for Part 2: 9 marks)

Part 3

You need to provide information about a target heart rate people should aim for when they exercise at between 50% and 70% intensity. You also need to choose a suitable activity for the people taking part in the exercise classes.

You must:

- calculate the target heart rate for people in the age group you chose in Part 2 when they are exercising at 50% and at 70% intensity
- present your results so that an individual can check whether their heart rate during exercise is suitable for a person of their age.
  Use a different method to the one you used in Part 2.
- choose three exercises that could be carried out by your chosen group
- calculate the percentage change between a typical starting heart rate and the heart rate after **each** of your chosen exercises
- select one exercise for your target group. Use your results to justify your choice.

Remember to check your calculations.

(Total for Part 3: 9 marks)

Part 4

You must:

- calculate the maximum number of people that will fit in an exercise room in the region you chose in Part 2.

You need to consider your results in Part 2, Part 3 and Part 4 for your report.

You must:

- justify your methods of presentation
- make one comment to explain how far your results meet your purpose
- comment on how any possible sources of error may have affected your results.

Remember to check your calculations.

(Total for Part 4: 11 marks)

Sources you should use

Source 1

- Table − exercise participation rates and BMI of people in different regions

Source 2

- Formula − exercise intensity level

Source 3

- Table − heart rate after exercises and calories burned

Source 4

- Diagrams − rooms in different regions

Source 1 Table − exercise participation rates and BMI of people in different regions (page 1 of 2)

Initials of person	Region	Age (years)	Gender	Weekly exercise (hours)	Number of sessions per week	Body Mass Index (BMI)
CH	south	30	f	2.0	2	26.3
DD	east	32	m	5.75	5	26.3
BM	south	42	m	2.0	4	27.8
BF	north	47	f	3.5	7	26.8
ED	east	38	f	2.0	5	28.4
FF	west	28	f	2.0	1	25.6
EH	east	50	f	1.5	2	25.1
AD	north	34	m	2.0	2	27.1
BH	south	20	m	4.0	6	25.4
AE	north	40	m	0.0	0	27.2
AN	north	27	f	4.5	3	23.7
AC	north	26	m	3.5	5	26.9
FK	west	46	f	2.5	5	26.5
DG	east	43	m	4.0	4	26.2
DC	east	27	m	6.5	3	27.0
EC	east	31	f	2.0	4	27.3
CN	south	51	f	4.0	5	26.8
CP	south	52	f	3.0	2	26.9
EE	east	41	f	2.0	1	24.1
BA	north	32	f	0.0	0	24.2
AH	north	48	m	1.75	2	27.0
BB	north	36	f	2.0	1	25.0
AK	north	52	m	0.0	0	27.2
EB	east	29	f	2.0	1	27.1
FH	west	37	f	1.5	1	24.4
EG	east	46	f	1.5	1	24.5
BG	north	53	f	3.25	4	26.5
DB	east	24	m	5.0	6	26.5
FB	west	52	m	0.0	0	25.8
FJ	west	44	f	1.5	1	24.5
BC	north	37	f	2.0	1	25.2
EF	east	44	f	1.5	1	24.3
BJ	south	23	m	3.0	2	24.8
CF	south	26	f	0.0	0	26.9
EA	east	25	f	4.75	5	26.9
AA	north	23	m	9.75	6	23.6
EJ	east	51	f	0.0	0	26.2
FM	west	52	f	3.0	2	25.8
AF	north	42	m	2.25	2	25.9
BL	south	35	m	4.25	4	24.3

Source 1 Table − exercise participation rates and BMI of people in different regions (page 2 of 2)

Initials of person	Region	Age (years)	Gender	Weekly exercise (hours)	Number of sessions per week	Body Mass Index (BMI)
DL	east	22	f	4.75	3	26.2
FL	west	49	f	2.5	2	24.8
DA	east	21	m	6.0	4	25.4
EK	west	20	m	7.25	4	25.0
FD	west	22	f	6.0	5	24.9
EL	west	24	m	5.0	6	25.1
CJ	south	32	f	3.5	7	26.5
DH	east	46	m	3.75	2	27.3
CK	south	37	f	3.0	2	26.8
BK	south	36	m	3.0	4	25.0
FA	west	49	m	0.0	0	26.9
EJ	west	36	m	2.0	1	25.2
AL	north	22	f	3.5	2	24.0
DF	east	40	m	4.5	3	26.1
FG	west	33	f	1.0	1	24.8
EK	west	42	m	1.5	1	25.5
CB	south	47	m	0.0	0	27.9
CE	south	23	f	4.75	4	26.9
EG	west	29	m	3.0	2	24.3
CD	south	53	m	1.0	1	27.8
FE	west	26	f	4.0	5	25.2
AJ	north	51	m	1.5	1	28.5
CL	south	43	f	3.5	2	27.0
BL	south	40	m	3.0	2	26.1
FN	west	54	f	2.5	2	25.4
BD	north	43	f	3.75	5	26.3
CC	south	51	m	1.0	1	27.6
FC	west	54	m	0.5	1	26.4
CG	south	27	f	2.0	2	26.2
AB	north	25	m	7.5	5	24.1
CM	south	49	f	4.0	5	27.2
DJ	east	53	m	4.5	6	26.2
AM	north	26	f	5.0	3	23.6
CA	south	45	m	0.0	0	28.2
BE	north	44	f	3.75	2	27.0
AG	north	45	m	2.0	1	26.5
DK	east	55	m	4.5	5	24.8
EH	west	31	m	2.75	2	24.3
EL	west	44	m	1.5	1	25.2
DE	east	34	m	4.75	4	26.6

Note: Body Mass Index (BMI) is a measure that uses height and weight to work out if a person's weight is healthy. For most adults, an ideal BMI is between 18.5 and 24.9

Source 2 Formula – exercise intensity level

$$E = \frac{100h}{220 - a}$$

Where E is the exercise intensity level (%)
h is the heart rate (beats per minute)
a is the age in years

Source 3 Table – heart rate after exercises and calories burned

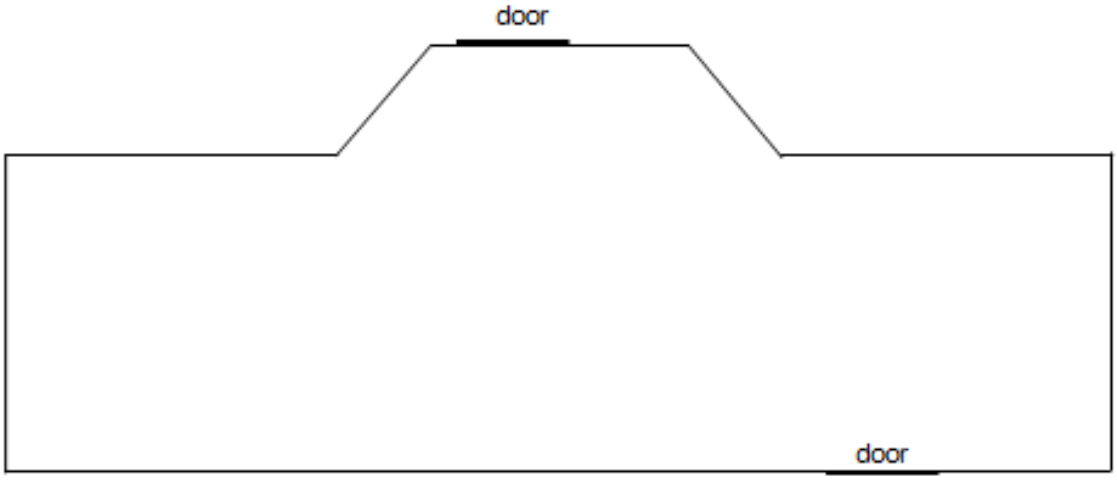
Exercise	Typical heart rate after exercise (beats per minute)*	Calories (kcal) burned in 30 minutes of exercise
Pilates	89	167
Yoga	93	149
Aerobics	110	205
Step	125	223
Bodypump	144	298
Boxercise	135	335
Bootcamp	152	298
Kettles	155	372

Typical starting heart rate 60 beats per minute (bpm)
For a well-trained athlete it is 40-60 bpm

* These figures will vary according to the individual, how often they exercise and how much effort they put into the exercise.

Source 4 Diagrams – rooms in different regions

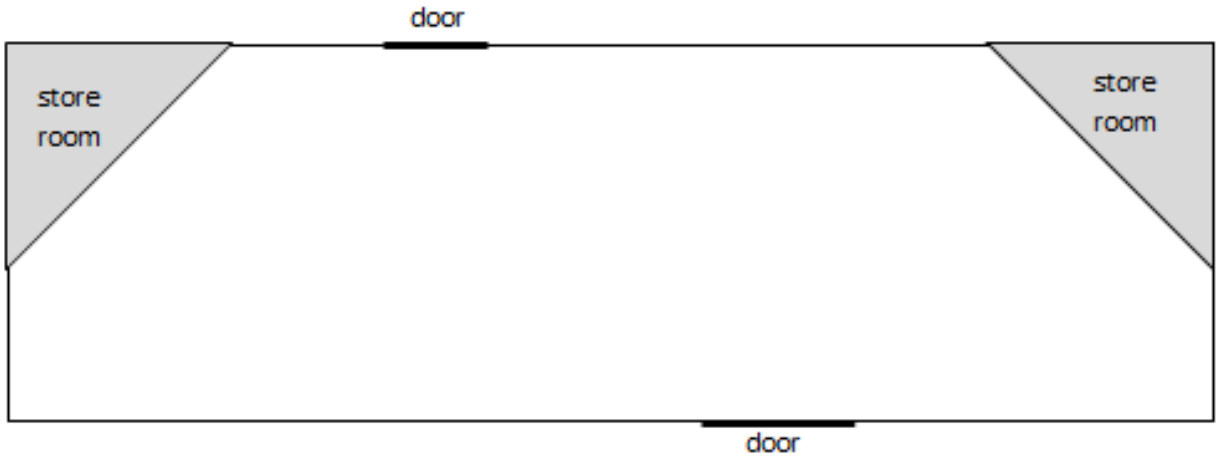
Northern Location



Scale 1:150

Allow 15 m^2 per person.

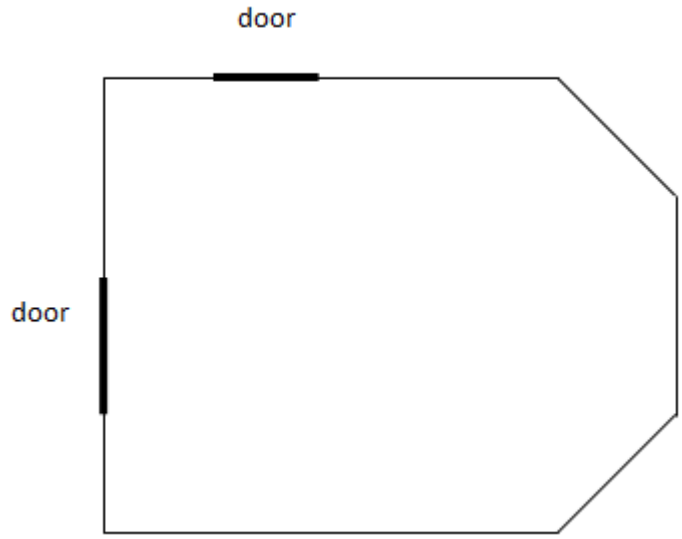
Eastern Location



Scale 1:250

Allow 15 m^2 per person.

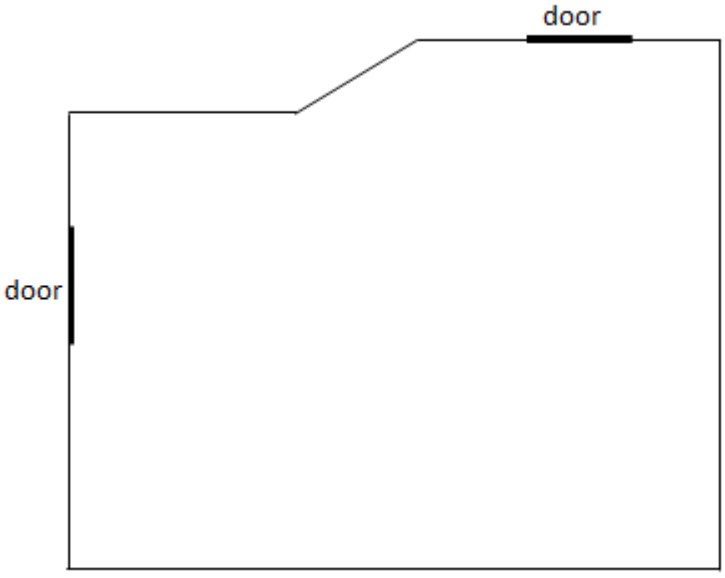
Southern Location



Scale 1:200

Allow 15 m^2 per person.

Western Location



Scale 1:250

Allow 15 m^2 per person.