

Mathematics

Level 2



Functional Skills
Practice Assessment 3

Leisure Suite

You will need to use the information on the **Data Sheets**, which are situated at the back of this booklet, to answer the questions.

Write down **ALL** your calculations and explain why you are doing them.

Calculators may be used.

You have recently been employed by a hotel leisure club and have been given the following tasks in order to increase your knowledge of the club and its members.

Use the information given below to answer the questions.

Membership

1) a) Complete the following table:

Type of membership	1 month	6 months	1 year
Full	£_____	£_____	£_____
Off peak	£_____	£_____	£_____

b) The Leisure Club introduce a new offer where, if a member pays for 1 year's membership in advance, there is a 5% discount. What is the **discounted amount** on full membership?

c) How much will full membership cost for 1 year with this discount?

d) If a member pays for 6 months membership in advance, there is a 2% discount. How much will off-peak membership cost for 6 months with this discount?

- e) A full-time member, who pays his membership for one year in advance, attends the Leisure Suite 4 times each week for approx 3 hours each time, missing only 3 weeks each year. How much has each 3 hour session cost him?

- 2) a) What is the membership ratio of men to women?

_____ : _____

- b) What is the ratio of full members to off-peak members?

_____ : _____

- c) The club is aiming to increase its membership by 20% overall. If the ratios remain the same, **approximately** how many more women would you expect to add to the membership?

- d) If the ratios remain the same, how many of the new members are likely to sign up for off-peak membership?

3) a) **Approximately** what percentage of members are aged over 50?

b) Put these age groups in order from those with the smallest number of members to those with the largest number of members:

>60 51-60 41-50 31-40 <31

c) How many members are in the following age groups?

aged <31	aged 41-50	aged >60

d) What fraction of members are aged between 31 and 50?

Time

4) a) A member signs in at 8.35 a.m. and spends the following time in the leisure facilities:

- 10 minutes changing;
- $\frac{3}{4}$ hr in the pool;
- $\frac{1}{4}$ hr in the sauna;
- 20 minutes in the jacuzzi;
- and a further 35 minutes to shower and dress.

What time does she sign out?

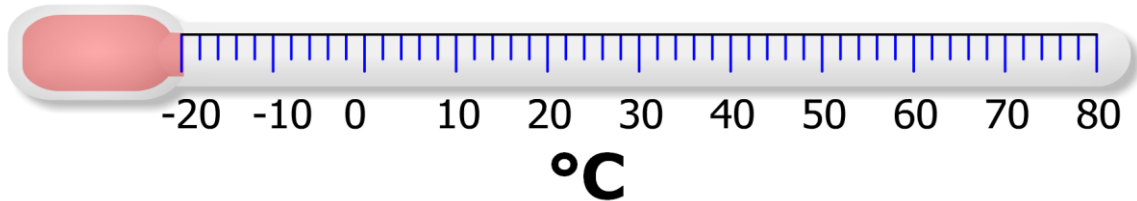
b) How many minutes in total per week can an off-peak member use the Leisure Suite?

c) Each week, Ellie attends all the adult classes (except the adult learners class), plus the healthy eating group. She also uses the Leisure Suite for $2\frac{1}{2}$ hours 3 times a week. How much time is this in total?

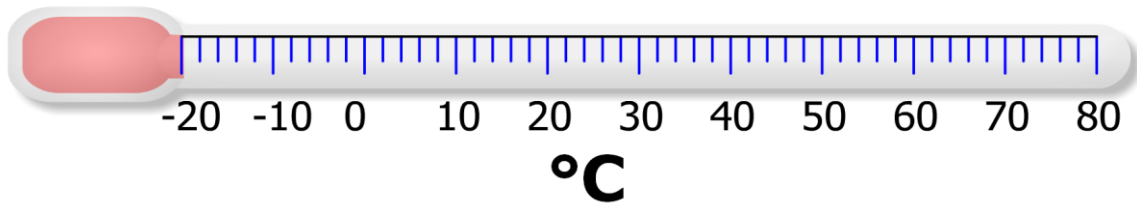
_____ hours

Temperature

- 5) a) At 6 a.m. the temperature **outside** is -3°C . Mark this temperature on the thermometer.



- b) There is a **required** temperature in the Leisure Suite. Mark the thermometer with this temperature.



- c) What is the difference between the temperature outside at 6 a.m. and the required temperature in the Leisure Suite?
- d) What is -3°C in $^{\circ}\text{F}$?

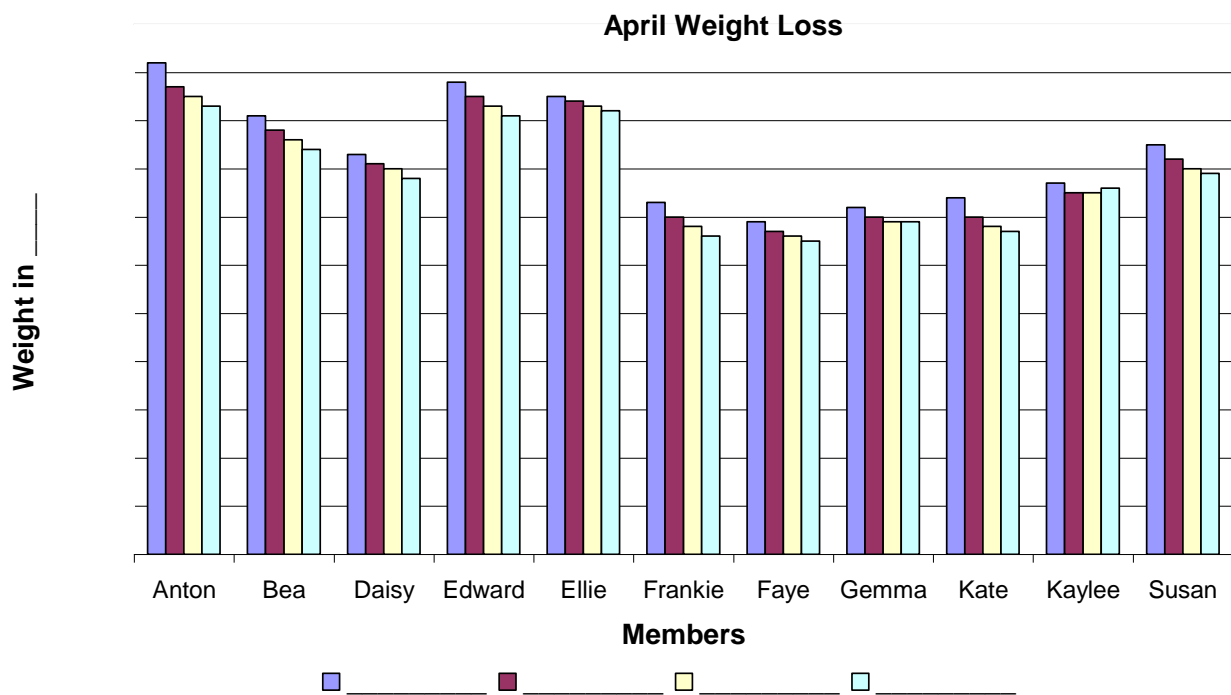
Leisure Suite

- 6) a) What is the area of the whole Leisure Suite?
- b) What is the approximate area of the pool if its capacity is 75.6 m^3 and the depth is 120 cm?
- c) You need to tape off the circular jacuzzi by putting tape around its circumference. What length of tape would be needed? Give your answer to the nearest centimetre. ($\pi = 3.14$)
- d) The floor of the Leisure Suite is to be retiled, except for the areas of the swimming pool, jacuzzi and sauna. What is the total floor area to be tiled?
- e) The tiles measure 30 cm x 30 cm and are sold 10 per box. Approximately how many boxes of tiles will need to be purchased? Round your answer **up** to the nearest 10.

Health and Fitness

The bar chart below has been compiled using the data from this table.

	Week 1	Week 2	Week 3	Week 4
Anton	102	97	95	93
Bea	91	88	86	84
Daisy	83	81	80	78
Edward	98	95	93	91
Ellie	95	94	93	92
Frankie	73	70	68	66
Faye	69	67	66	65
Gemma	72	70	69	69
Kate	74	70	68	67
Kaylee	77	75	75	76
Susan	85	82	80	79



- 7) a) Complete the values on the y axis.
- b) Complete the title on the y axis.
- c) Complete the legend.

	Week 1	Week 2	Week 3	Week 4
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Bea	91	88	86	84
Daisy	83	81	80	78
Edward	98	95	93	91
Ellie	95	94	93	92
Frankie	73	70	68	66
Faye	69	67	66	65
Gemma	72	70	69	69
Kate	74	70	68	67
Kaylee	77	75	75	76
Susan	85	82	80	79

- d) Draw a line graph using the information from the table above, to compare Frankie, Gemma and Kate's weight loss over the 4 weeks.

Health and Fitness

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Edward	98	95	93	91
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Frankie	73	70	68	66
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Gemma	72	70	69	69
Kate	74	70	68	67
Kaylee	77	75	75	76
Susan	85	82	80	79

- 8) a) Who lost the most weight?
- b) Who lost the least weight?
- c) What is the total weight loss for the whole group over the 4 weeks?
- d) What is the mean total weight loss over the 4 weeks (to the nearest kg)?
- e) What is the modal total weight loss?
- f) What is the range of the weights shown in the table?

Health and Fitness

- 9) a) An off-peak member, who pays for her membership monthly, also attends one aqua fit class, the water aerobics class and the healthy eating group each week. On average she has 6 weeks' break from the classes and group each year. How much will she spend altogether in a year?
- b) Hugo wants his two sons to go to the children's swimming classes each week. How much will it cost him to send both Edward and Guy to the classes for 6 months?



Leisure Suite - Data Sheet 1

Subscription costs:

- Full membership £39.50 per month;
- Off-peak membership £36 per month;
- Hotel residents may use the Leisure Suite for free.

Member numbers:

- 120 members;
- $\frac{2}{3}$ full members; the remainder are off-peak members;
- 96 members are women; the remainder are men.

Age of members:

$\frac{1}{10}$ aged <31 $\frac{1}{5}$ aged 31-40 $\frac{2}{15}$ aged 41-50 $\frac{7}{30}$ aged 51-60 $\frac{1}{3}$ aged >60

Opening times:

- 0700 - 2200;
- 0700 - 1600 Off-peak

Classes (all 1 hour)

- | | | |
|-----------------------|------------|-------------|
| • Aqua fit | Mon 20:00 | Wed 15:00 |
| • Water aerobics | Tues 20:00 | |
| • Children's swimming | Tues 17:00 | Thurs 18:00 |
| • Adult learners | Tues 18:00 | |

A healthy eating group meets for $1\frac{1}{2}$ hours in the hotel on Thursday evenings at 18:00.

At this group meeting, the members are weighed in kilograms and given diet and exercise advice. You must be a member of the Leisure Suite to attend the healthy eating group.

Classes and the healthy eating group each cost £3.50 per person per week.

Children of full members can attend the children's swimming classes – charges apply.

Required temperatures:

Leisure Suite: 38 °C
Water: 28 °C
Sauna: 90 °C
Jacuzzi: 33 °C

Conversion formula

$$^{\circ}\text{F} = (^{\circ}\text{C} \times \frac{9}{5}) + 32$$

Leisure Suite - Data Sheet 2

Plan of the Leisure Suite

