

Mathematics

Level 2



Functional Skills Practice Assessment 3

**Leisure Suite
Answers**

1) a)

Type of membership	1 month	6 months	1 year
Full	£39.50	£237	£474
Off-peak	£36	£216	£432

2 marks

b) £23.70

$$£474 \times 5\% = £23.70$$

1 mark

c) £450.30

$$\begin{aligned} \text{Full membership} &= £474 \\ £474 - £23.70 \\ &= £450.30 \end{aligned}$$

1 mark

d) £211.68

$$\begin{aligned} \text{6 month o/p membership} &= £216 \\ 216 \times 2\% &= 4.32 \\ 216 - 4.32 &= 211.68 \\ &= £211.68 \end{aligned}$$

2 marks

e) £2.30

$$\begin{aligned} 49 \text{ weeks} \times 4 &= 196 \\ \text{Full membership with discount} \\ &= £450.30 \\ 450.30 \div 196 &= 2.297 \\ &= £2.30 \end{aligned}$$

2 marks

2) a) 1:4

$$\begin{aligned} 120 \text{ people in total} \\ 96 \text{ women therefore } 24 \text{ men} \\ 24:96 &= 1:4 \end{aligned}$$

1 mark

b) 2:1

$$\begin{aligned} \frac{2}{3} \text{ full members therefore } \frac{1}{3} \text{ o/p} \\ \text{full members to o/p members} &= 2:1 \end{aligned}$$

1 mark

c) 19 women

$$\begin{aligned} 96 \text{ women} \times 20\% &= 96 \times 20 \div 100 \\ &= 19.2 = 19 \text{ women} \end{aligned}$$

1 mark

d) 8

$$120 \text{ members} \times 20\% = 24$$

$\frac{1}{3}$ are o/p members

$$\frac{1}{3} \text{ of } 24 = 8$$

2 marks

3) a) 57%

$$\frac{7}{30} \text{ aged } 51-60; \frac{1}{3} \text{ aged } > 60$$

$$\frac{7}{30} + \frac{1}{3} = \frac{7}{30} + \frac{10}{30} = \frac{17}{30}$$

$$17 \div 30 \times 100 = 56.66$$

$$= 57\%$$

2 marks

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

1 mark

c)

<31	41-50	>60
12	16	40

3 marks

d) $\frac{1}{3}$

$$\frac{1}{5} \text{ aged } 31-40; \frac{2}{15} \text{ aged } 41-50$$

$$\frac{1}{5} + \frac{2}{15} = \frac{3}{15} + \frac{2}{15} = \frac{5}{15}$$

$$= \frac{1}{3}$$

2 marks

4) a) 10.40 a.m.

$$10 + 45 + 15 + 20 + 35 = 125 \text{ mins}$$

$$125 \text{ mins} = 2 \text{ hrs } 5 \text{ mins}$$

$$8.35 + 2.05 = 10.40$$

2 marks

b) 3780 minutes

$$\text{O/p hrs } 07:00 - 16:00 = 9 \text{ hours}$$

$$9 \text{ hours} \times 7 \text{ days} = 63 \text{ hours}$$

$$63 \times 60 = 3780 \text{ minutes}$$

2 marks

c) 12 hours

$$2 \text{ aqua fit} + 1 \text{ water aerobics}$$

$$= 3 \text{ classes} = 3 \text{ hrs}$$

$$\text{Healthy eating group} = 1\frac{1}{2} \text{ hrs}$$

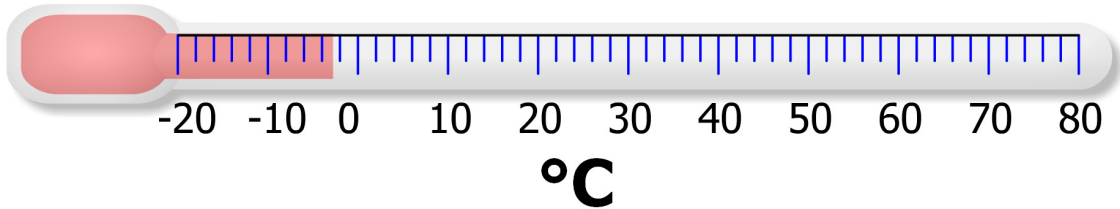
$$2\frac{1}{2} \text{ hours} \times 3 \text{ times a week} = 7\frac{1}{2} \text{ hrs}$$

$$3 + 1\frac{1}{2} + 7\frac{1}{2} = 12 \text{ hours}$$

2 marks

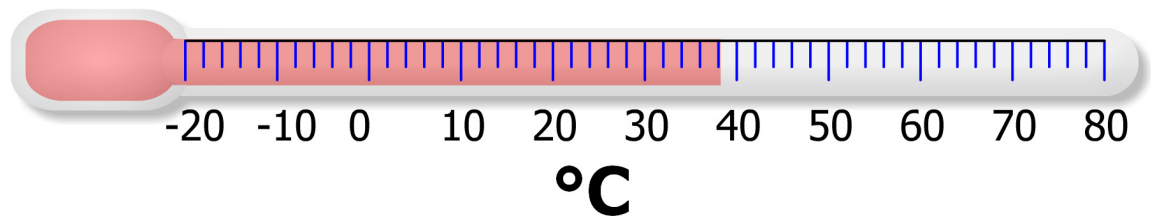
5) a) (Thermometer showing -3°C)

1 mark



b) (Thermometer showing 38°C)

1 mark



c) 41°C

Required temperature = 38°C

$$38 - (-3) = 41^{\circ}\text{C}$$

1 mark

d) 26.6°F

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

$$^{\circ}\text{F} = (-3 \times \frac{9}{5}) + 32$$

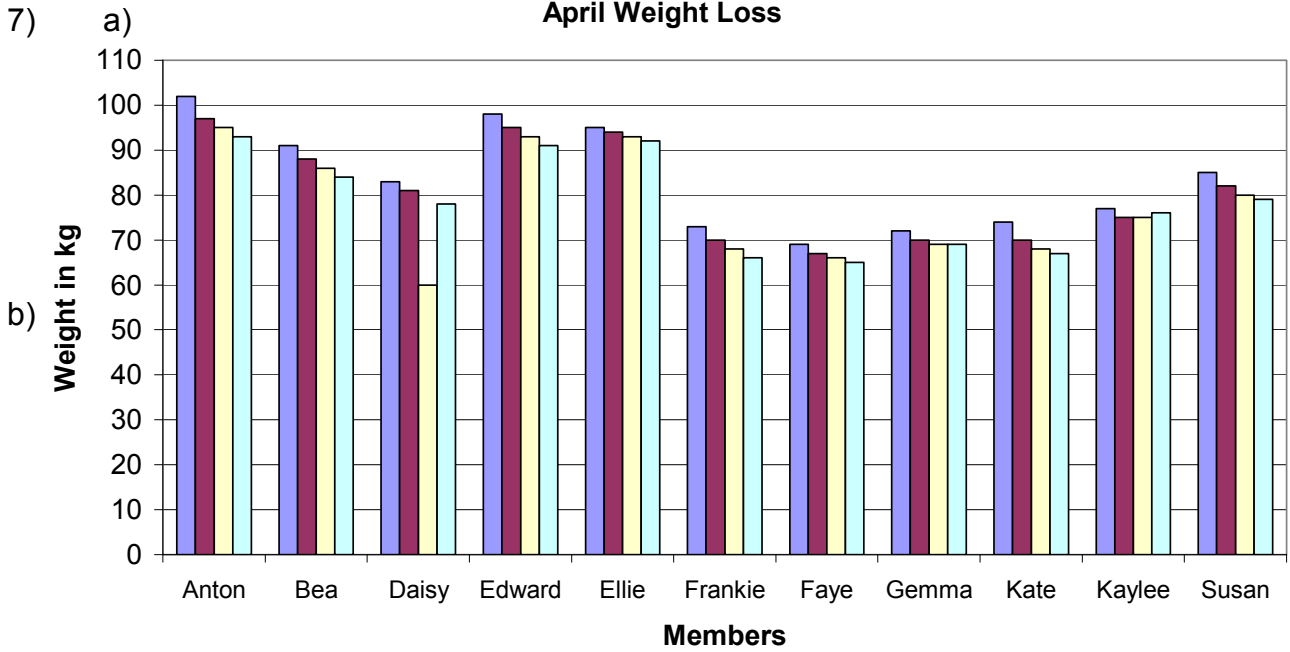
$$^{\circ}\text{F} = -5.4 + 32$$

$$= 26.6 = 26.6^{\circ}\text{F}$$

1 mark

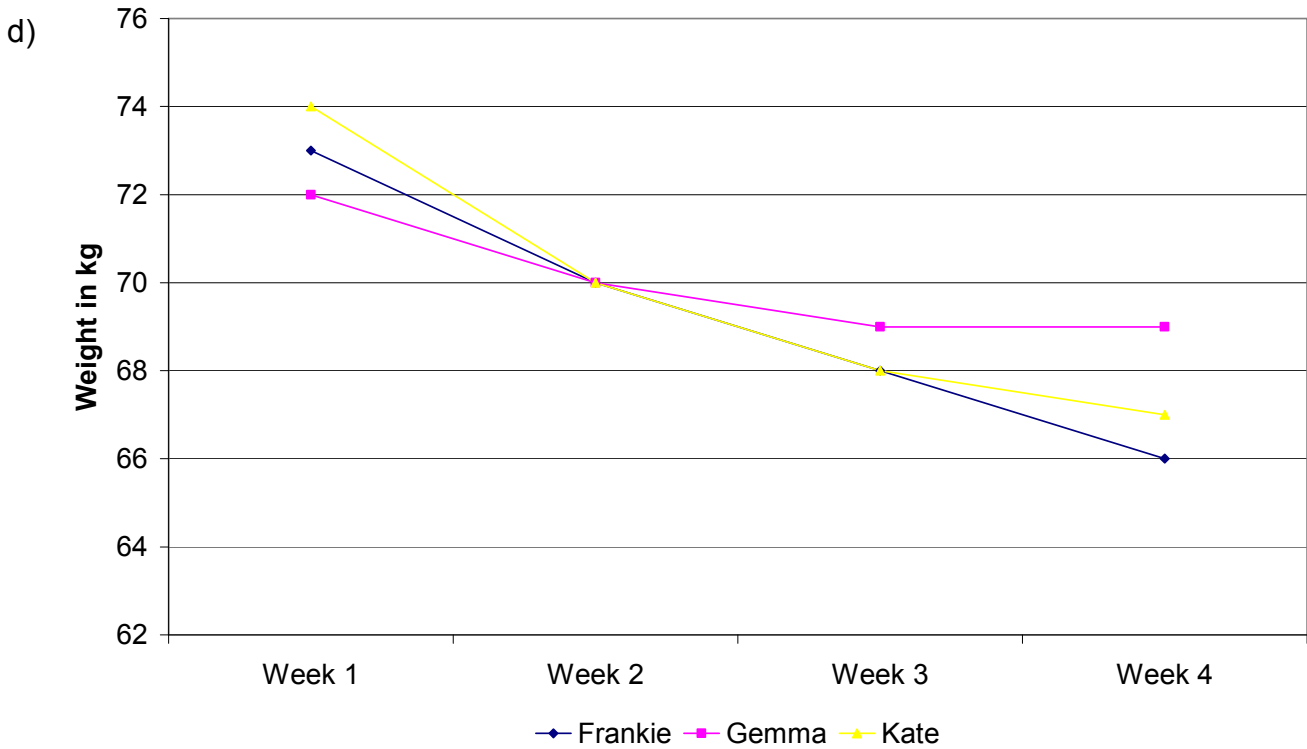
- 6) a) 270.81 m^2 $17.7 \times 15.3 = 270.81$
 $= 270.81 \text{ m}^2$ **1 mark**
- b) 63 m^2 $120 \text{ cm} = 1.2 \text{ m}$
 $75.6 \div 1.2 = 63 \text{ m}^2$ **1 mark**
- c) 816 cm $2 \times 3.14 \times 1.3$
 $2.6 \times 3.14 = 8.164 \text{ m}$
 $= 816 \text{ cm}$ **1 mark**
- d) 193.5 m^2 Area of Jacuzzi = $\pi r^2 = 3.14 \times 1.3^2$
 $3.14 \times 1.69 = 5.31 \text{ m}^2$
Area of sauna = $3 \times 3 = 9 \text{ m}^2$
Area of pool = 63 m^2
Area of leisure suite = 270.81 m^2
Area to be tiled =
 $270.81 - (5.31 + 9 + 63) = 193.5 \text{ m}^2$
2 marks
- e) 220 boxes Each tile measures $30 \text{ cm} \times 30 \text{ cm}$
 $= 0.3 \text{ m} \times 0.3 \text{ m} = 0.09 \text{ m}^2$
1 box of 10 tiles covers:
 $10 \times 0.09 = 0.9 \text{ m}^2$

No of boxes needed:
 $193.9 \div 0.9 = 215.44 = 220 \text{ boxes}$
2 marks



c) ■ Week 1 ■ Week 2 ■ Week 3 ■ Week 4

a) b) c) **2 marks**



The graph should include a meaningful title.

lines **1 mark**

titles/legend **1 mark**

- 8) a) Anton **1 mark**
- b) Kaylee **1 mark**
- c) 59 kg **1 mark**
- d) 5 kg
Total weight loss = 59 kg
 $59 \div 11 = 5.3 = 5 \text{ kg}$ **1 mark**
- e) 7 kg
4 people have lost 7 kg in total **1 mark**
- f) 37 kg
Heaviest weight = 102 kg
Lightest weight = 65 kg
Range = $102 - 65 = 37 \text{ kg}$ **1 mark**
- 9) a) £915
Classes + Healthy Eating group
 $= 3 \times £3.50 = £10.50 \text{ per week}$
 $46 \text{ weeks} \times £10.50 = £483$
Off-peak monthly = £432
 $£432 + £483 = £915$ **2 marks**
- b) £364
Children's swimming class = £3.50
2 children will cost £7 = £14 per wk
 $14 \times (52 \div 2) = £364$ **1 mark**

51 marks in total