

FUNCTIONAL SKILLS ONLINE COURSES

nctional Skills English Initial Assessment	Based on you assessmen curre From this dia the followi	IT results from this initial t, we estimate you are ntly at Level 1.5. gnostic, we think one of ing courses would be suitable:
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(a)	Fiona is on a work placement in a hotel.					
	The hotel has a loyalty programme for th	ne gues	sts.			
	There are three million, four hundred tho signed up to the loyalty programme worl	usand dwide.	and nii	neteen gu	uests cur	rently
	Write three million, four hundred thousar	nd and	ninetee	en as a n	umber.	[1 mar
	Your answer:	34	400	019		
))	There are 216 guests currently staying a	at the h	otel.			
-,	81 of these guests are signed up to the loyalty programme.					
	81 of these guests are signed up to the	loyalty	progra	mme.		
	81 of these guests are signed up to the	loyalty	progra are sig	mme. ned up to	o the loya	alty
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Please turn over

Examiner use

2 (c)

The table below shows information about the 216 guests staying at the hotel on Sunday.

Sunday			
Number of nights stay	Number of guests		
1	59		
2	42		
3	65		
4	25		
5	16		
6	5		
7	4		
Total	216		

Every Sunday and Monday, guests who will be staying for more nights than the mode are given a voucher for $\pounds 10$ off food and drink in the restaurant.

The total value of the vouchers given to guests on Monday was 4% more than the total value of the vouchers given on Sunday.



[4 marks]



Examiner use

2 (d)

Fiona uses this formula to work out the number of loyalty points earned by each guest last year.

$$L = 300 (s + \frac{r}{2})$$

Where L = number of loyalty points collected in a year

- s = number of nights stayed in a suite
- r = number of nights stayed in a regular room

She then uses this table to put each guest into one of five tiers based on the number of loyalty points they earned.

Tier	Loyalty points collected in a year
1	0 – 599
2	600 – 1499
3	1500 – 2999
4	3000 – 4999
5	5000+
1000	

Last year, Mrs Jones stayed 3 nights in a suite and 7 nights in a regular room.

Which tier should Fiona put Mrs Jones into?

You must show all your working.

[2 marks]

 $L = 300 (s + \frac{r}{2})$ = 300 (3 + $\frac{7}{2}$) 5 = 3 r = 7300.0 6.5 150.0 = 1950 1800.0 1950.0 Tier 3 Your answer: Tier 3

2 (e) A luxury room in the hotel has a bathtub 60.3 inches long.

What is the length of the bathtub in centimetres?

Use the conversion 1 inch = 2.54 cm

Give your answer correct to 1 decimal place.

$$60.3 \times 2.54 = 153.162 \qquad 60.30$$

$$= 153.2 + 0 \ 1dp \qquad \times 2.54$$

$$2.40 \ 1 \ 2 \qquad 30.150$$

$$+ \frac{120.600}{153.8162}$$
Your answer: 153.2 cm

Please turn over

[2 marks]

Examiner use only

Fiona helps with organising an event at the hotel.

The diagram below shows the dimensions of the dance floor.

The shape of the dance floor has one line of symmetry.



On the dance floor, each person must have at least 0.9 m² of floor space.

Work out the maximum number of people who can use this dance floor at one time. [4 marks]

Area of trapezium =
$$\frac{1}{2}(ab+b)h$$

 $\frac{1}{2} \times (17+20.5) \times 11.5 = 215.625$
 $215.625 \times 2 = 431.25 \text{ m}^2$ whole area
 $\frac{431.25}{0.9} = 479.166$
 $\approx 479 \text{ people}$
Your answer: 479 people

[Total marks: 15]

2 (f)

Examiner use only

Your answer:

Activity 3: Product design

3 (a) Calista is a product designer at a toy factory.

The diagram shows a metal part in a toy robot.



What is the name of this shape?

Tick the correct answer.



[1 mark]

Please turn over

3 (b) Calista designs a plastic piece for a game.

The piece is in the shape of a cone. The diagram shows the dimensions of the piece.



Not drawn accurately

Work out the surface area of the piece.

Use $A = \pi r^2 + \pi rs$ where A = surface area of a cone r = radius of the circular base = 7 mm s = slant height of the cone = 2.4 mm

Use $\pi = 3.14$

[2 marks]

$$A = \pi (7)^{2} + \pi (7)(24)$$

$$= 49\pi + 168\pi$$

$$= 217\pi$$

$$= 217 \times 3.14$$

$$= 681.38$$
Your answer: 681.38 mm²

3 (c) Calista mixes three colours to make teal-coloured paint for the plastic game pieces. She mixes blue, green and yellow paint in the ratio 4 : 2 : 1

> Calista wants to make 14 litres of teal-coloured paint. She thinks she needs 1.6 litres of yellow paint.

Is she correct?

Show how you decide.

[2 marks]

|4 - (4 + 2 + 1) = 2need 2 litres of yellow paint No, need 2 litres of yellow Your answer: Please turn over

Examiner use o

3 (d)

The graph below shows the information about the settings and fault rate of a machine in the toy factory.

Machine setting and fault rate 60 š × 50 X x × 40 × Fault rate (number of 30 faulty toys per X 1000) 20 × 10 0 3000 1500 2000 2500 500 1000 Machine setting (number of toys made per hour)

What was the highest fault rate when the machine was set to make 1600 toys per hour?

[1 mark]

See graph faulty toys per 1000 20 Your answer:

Calista is writing a report.

She uses a line of best fit to find the fault rate when the machine setting is 2500

Calista writes, "The fault rate when the machine setting is 2500 as a percentage of the median fault rate when the machine setting is 2600 is more than 90%."

Is she correct?

Show how you decide.

[5 marks]

(see line of best fit) Fault rate at 2500 is 41 (under Q3d) Median at 2600 is 48 $\frac{41}{48} \times 100 = 85.4166... '.$ No she's not correct the percentage is 85.4%. 85.4% No Your answer:

Please turn over

Examiner use

3 (f)

Calista has this data about the volume of plastic used to make the toys she has designed.

Volume of plastic (p in cm ³) used to make a toy	Number of toys made	midpoints
0 < p ≤ 30	26 000	15
30 < p ≤ 60	42 000	45
60 < p ≤ 90	17 000	75
90 < p ≤ 120	9000	105
120 < p ≤ 150	6000	135
Total:	100 000	

She works out an estimate of the mean volume of plastic used for each toy.

She wants to reduce this mean by 8%

If she is successful, what will the new mean be?

Give your answer correct to 1 decimal place.

 $26000 \times 15 = 390000$ $42000 \times 45 = 1890000$ $17000 \times 75 = 1275000$ $9000 \times 105 = 945000$ $6000 \times 135 = 810000$ 390000 + 1890000 + 1275000 + 945000 + 810000 = 5310000 $\frac{5310000}{100000} = 53.1 \text{ mean}$ reduced mean $53.1 \times 0.92 = 48.852$

Your answer:

48.9

[Total marks: 15]

[4 marks]

Activity 4: House extension

4 (a) Abdul wants to build an extension to his house.

The coordinate grid below shows the plan of his back garden where the extension will be.



Points A and B are two corners of the extension. The line AB shows one wall of the extension.

The floor of the extension will be a square.

Write down a set of possible coordinates for the other two corners of the extension.

[2 marks]

Your answer:

(4,0) and (9,0)



The diagram below shows the dimensions of the extension.



Abdul wants to work out the power of the heater needed for the extension.

First, he needs to find the volume (V) of air inside the empty extension by using this formula:

 $V = 0.5 \times w \times l \times (a + b)$

where a = greatest height (m) b = smallest height (m)

w = width(m)

l = length(m)

4 (c)

Abdul then uses this formula to work out the power of the heater needed for the extension.

P = 40V + 100n

where P = power of the heater (watts) V = volume of air inside the empty extension (m³) n = the number of windows

There will be 2 windows.

Work out the power of the heater needed for Abdul's extension.

[4 marks]

Volume = area of trapezium x 6
=
$$\frac{1}{2}(a+b) \times h \times 6$$

= $\frac{1}{2} \times (3+2.5) \times 6 \times 6$
= 99

$$P = 40 \times 99 + 100 \times 2$$

Your answer:

4160

watts

Please turn over

4 (d) Abdul needs to make a planning application. He must include a scale drawing of the garden and the extension.

> The width of the garden is 11.8 metres. The drawing will use the scale 1 : 200

Abdul thinks that the width of the garden in the scale drawing is 5.4 cm long.

Is Abdul correct?

Show how you decide.

[2 marks]

$11.8 \times 100 = 1180 \mathrm{cm}$	^
$1180 \div 200 = 5.9$	cm
SO NO	
Your answer:	No the width would be 5.9 cm

passfunctionalskills.co.uk **4 (e)** Abdul finds this information about planning applications to his local council in 2020

Type of planning application	Received	Granted	Declined
Major	270	195	75
Residential	306	267	39
Commercial	124	94	30

Abdul thinks that, overall, residential applications are more likely to be granted than commercial applications.

Is he correct?

Show how you decide.

[2 marks]

residential
$$\frac{267}{306} = 0.8725...$$

commercial $\frac{94}{124} = 0.75806...$
Your answer: Yes 87.3% are granted
over 75.8% of commercial.

Examiner use

4 (f)

Abdul finds this information about planning applications to his local council in 2020

Type of planning application	Received	Granted	Declined
Major	270	195	75
Residential	306	267	39
Commercial	124	94	30

What is the probability that one of these applications chosen at random is a declined commercial application?

[1 mark]

$$\frac{30}{700} = 0.0428$$

Your answer: 0.04 or $\frac{7}{30}$

4 (g) Abdul is granted planning permission.

He does this calculation to work out how much concrete to buy:

 $\frac{(0.2+0.05)\times 6^2}{0.9}$

What answer should Abdul get?

[2 marks]

BIDMAS $\frac{(0.2+0.05)\times 6^2}{0.9} = \frac{(0.25)\times 36}{0.9}$ = 10 10 Your answer:

[Total marks: 15]

This is the end of the assessment.







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