



ForSkills Assessments

Diagnostic Assessment

Maths L2

Name:

Date:

Part A Number

1. **Number these art galleries in order of annual number of visitors, putting the most popular first.**

Bath Art Gallery	95,400
Glasgow Art Gallery	1.9 million
Dudley Art Gallery	60,000
The Courtauld Gallery, London	125,000
Dulwich Gallery, London	142,000
Edinburgh Castle	1,200,000
Wallace Gallery, London	330,840
Buxton Gallery	33,840
Manchester Art Gallery	384,000

2. Last month the Premier Arts Company made a loss of £6 432 and this month another loss of £3 560 but the new director predicts that next month they will make a profit of £2 500.

How much will that leave the company in the red? ("in the red" means running at a loss.)

a. Loss after 2 months

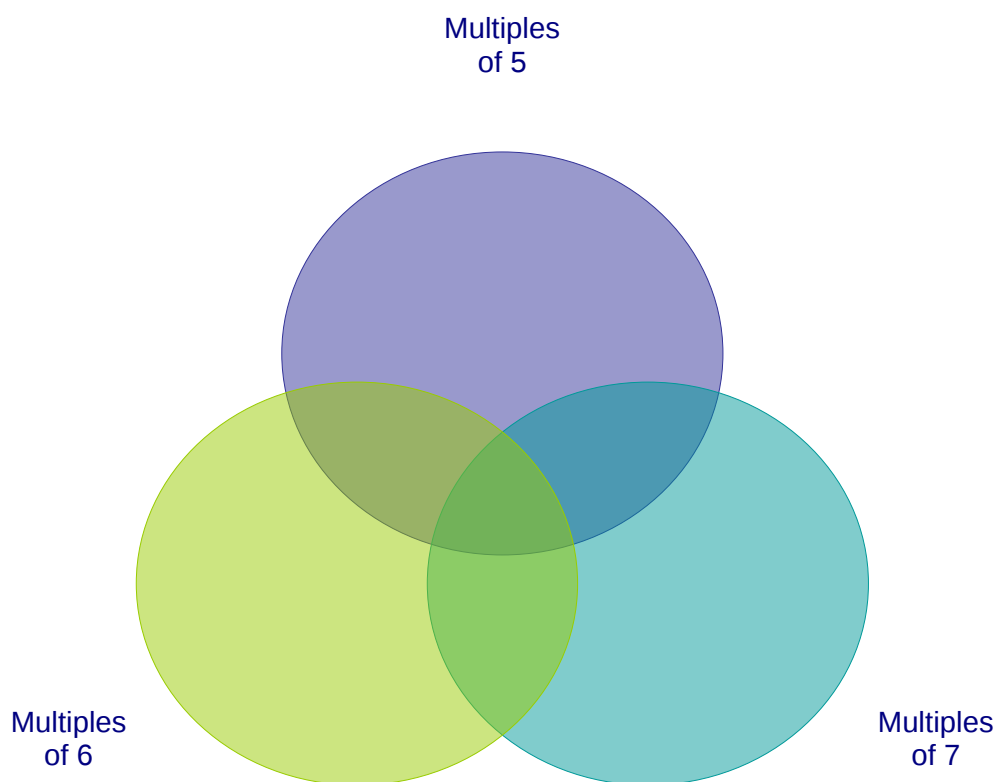
b. Loss after 3 months

3. **List all the prime numbers up to 20.**

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4. Copy these numbers into the appropriate circles. Some numbers may need to go in the overlap of two circles since they are multiples of both.

49	15	35	18	42	10	20	28	36
		30	12	21	24	25	14	



5a. I need to mix 25% mineral spirits to the varnish I am using.

What ratio of varnish to spirits am I using?

5b. If I use 240ml of varnish, what quantity of mineral spirits will I need?

.....ml

5c. Robinson's tapestries all measure 1.5m x 1m wide. Express the proportion of the tapestries height to width using whole numbers.

:

6a. A display board measures 2.5ft(h) by 3ft(l). Work out the area (a) by using the

formula **a = h x l**.sq. ft.

6b. For the same board, work out what length of border (p) it will need by using

the formula **p = 2(h+l)**ft

6c. How much material (a) will I need for a drape for the display if the width (w) of the area is 100cm and the drop (d) is 210cm and the width of the material (m) being used is 120cm?

The formula given is **a = (2w ÷ m) x d**cm

7a. Jasmin bought a wooden box of 40 assorted coloured pastels. $\frac{2}{5}$ are blue, $\frac{1}{10}$ are green, 25% are red, and $\frac{1}{4}$ are yellow. Of which colour are there most pastels?

7b. 6 students out of an art class of 24 prefer to use pastels, while 4 chose oils. What fraction of the class preferred oils?

What percentage of the class preferred pastels?

7c. Fill in the blanks in this chart.

Fraction	Decimal	Percentage
	0.75	75%
$\frac{1}{10}$		
$\frac{3}{5}$		
		15%

Hero and Su-Lin were filling in their time sheets.

- 8a. Su-Lin had worked $4\frac{1}{2}$ hours on Monday and Tuesday, $5\frac{1}{2}$ hours on Wednesday and $3\frac{1}{2}$ on Thursday.

What were her total hours for the week? hours

- 8b. If Su-Lin worked the same hours for the next 4 weeks, **what would her total number of hours be?**hours

- 8c. She earns £5.65 an hour. **What would she earn for those 4 weeks?**

£.....

Part B Measures, Shape and Space

- 1a. A collection of objects d'art worth £560 000, are being exported to the USA. The exchange rate, at present is £1 = \$1.98.

What will the cost be to the buyer in US dollars? \$.....

- 1b. Vainee has been asked to make up a chart to calculate the comparative price in Euros of several different priced articles from the gallery, in preparation for the influx of European visitors. The present exchange rate is 1€ = £1.25.

Complete the chart to 2 decimal points.

Item	Price in £	Price in €
Guide book	£2.50	€
Ceramic bowl	£15.20	€
Calendar	£4.99	€
Gallery DVD	£9.99	€

2. There is to be an open day at the Art College. **Can you fill in the details of the times, using the 24 hour clock, still needed on the day's agenda. Use the following information to help you.**

In the morning there will be a presentation on the different qualifications in Art and Design for **an hour and a quarter** followed by a **15 minute** question and answer session.

A coffee break follows before the **45 minutes** choice of activity starts at **11.15am**.

A half hour discussion on the place of art in society today follows before **an hour's** lunch break.

The afternoon will be given over to a tour of the final examination display of this year's students for **40 minutes** followed by a **20 minute** presentation about the content of the different art courses available at the College.

Before the end of the open day, at approximately 14.45, there will be an opportunity to ask questions for a **quarter of an hour**.

09:00	09:30	Welcome and coffee
09:30		Art and Design qualifications presentation
		Question and answer session
		Coffee
11:15		Choice of activity between: Teaching Art in the School Sector or Teaching Art in the FE Sector.
		Discussion
		Lunch
		Tour of work
		Presentation of the content of the different college courses
	14.45	Question and Answer session

- 3a. Monet's The Water-Lily Pond, in the National Gallery in London, measures 88.3cms x 93.1cms. Monet's Water-Lilies in the Tate measures 2060mm x 4320mm.

How much bigger is the one than the other? Give your answer in metres.

m	x	m
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- 3b. Coloured inks are available to buy either in 14ml bottles for £2.80 or 30ml bottles for £3.90. Amanda needs to find out which is the best buy.

Work out how much each costs for 1ml

14ml bottle of ink is £..... per 1ml

30ml bottle of ink is £per 1ml

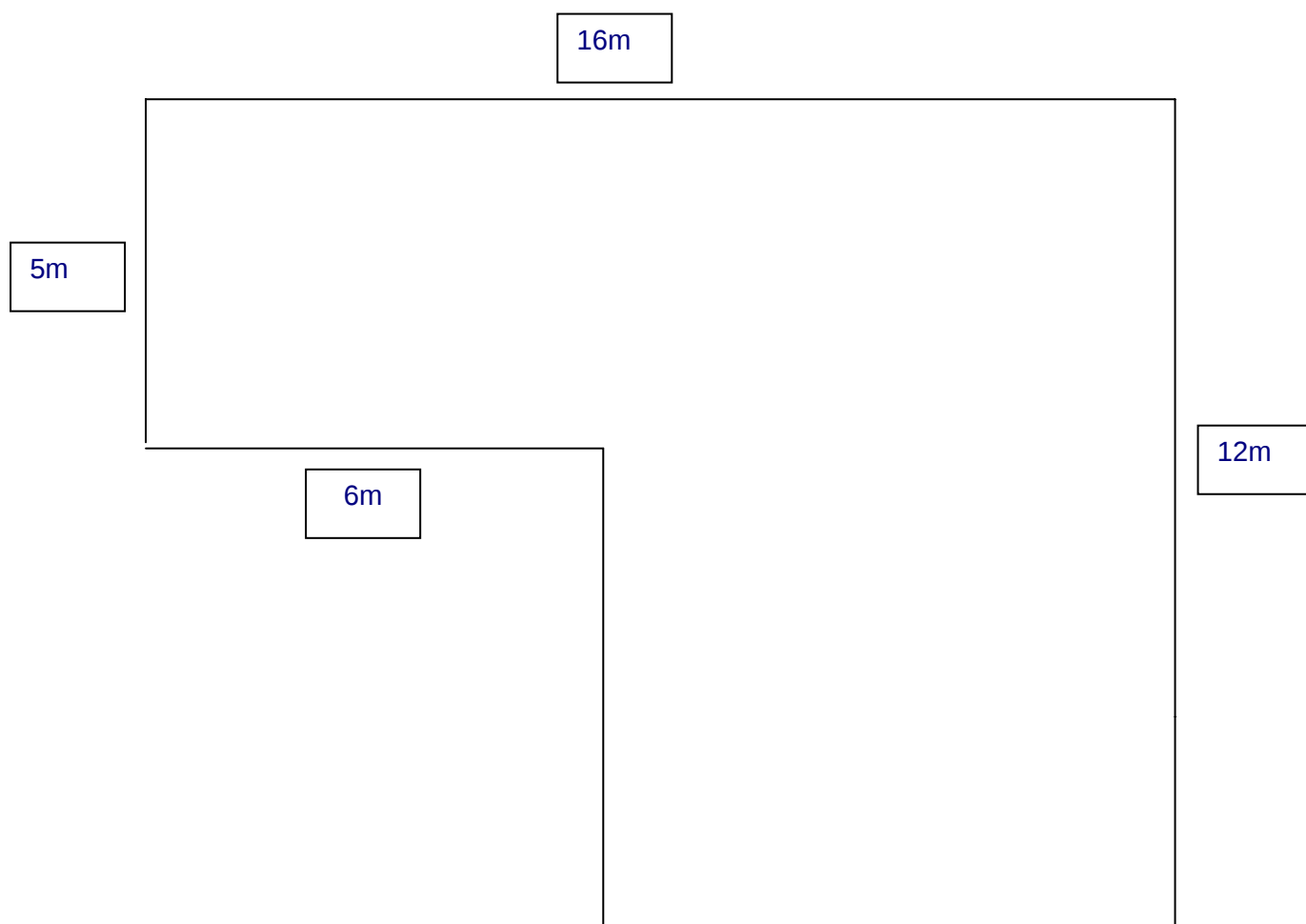
- 3c. From the 12.5kg pack of clay, 500g was used on Monday, 750g on Tuesday, 1.5kg on Wednesday and 2kg on Thursday.

How much from the pack was left by Friday?kg

- 3d. The bronze sculpture was 36" tall by 42" long. **Circle which of these sets of metric measurements best matches this imperial measurement?**

- 90cms x 160cms
- 92cms x 107cms
- 1m x 150cms
- 89cms x 100cms

- 4a. This is a plan of the ground floor of the new art gallery which needs covering with floor covering.
Work out the area.

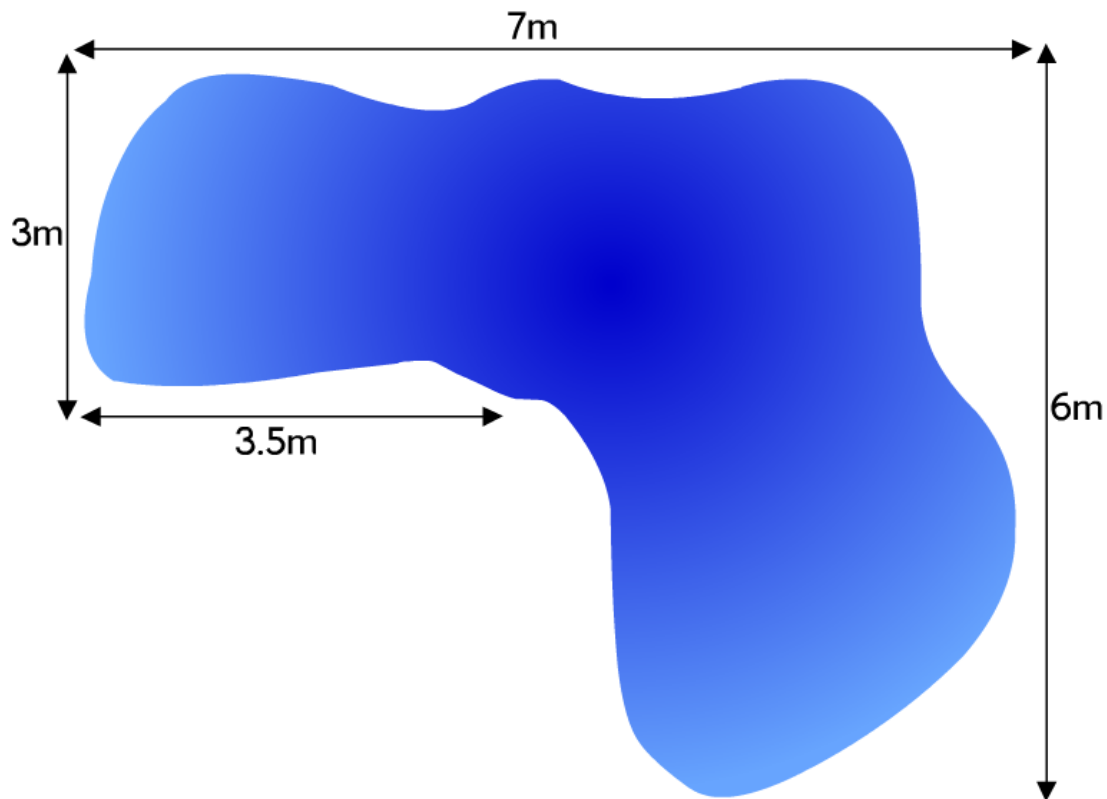


Area =

- 4b. It is planned to put a decorative border all the way around the walls.

What length of border will be needed?m

- 4c. A design for a garden pond is not regular. Use the measurements given to work out the approximate area.



- 4d. Work out the amount of resin required for a mould with the following dimensions:

$$200\text{mm} \times 150\text{mm} \times 180\text{mm} = \dots\dots\dots \ell$$

Give your answer in litres – remember $1000\text{cm}^3 = 1 \text{ litre}$

- 4e. Use the following formula to work out the area of the piece of glass needed for the top of a display cabinet which has a diameter of 1.8m

Area = πr^2 where $\pi = 3.14$ and $r = \text{radius}$

Area = m^2 (to 2 decimal points)

- 5a. The gallery needs to build a display stage which is 2m by 80cm and is 50cm high. Blocks were ordered to do this. Each block measures 25cm by 20cm and is 25cm in height.

How many blocks does he order?

- 5b. Boxes of watercolour paints are stacked in baskets. Each box measures 8cm by 6cm by 3cms and each basket measures 25cm by 19cm by 13cm.

How many boxes will comfortably fit in each basket?

- 5d. An architect makes a scale model of the planned new theatre.
The scale of the model is 1 : 50.
The width of the theatre will be 40 metres.

What is the width of the model?cm

Part C Handling Data

At the arts exhibition, everyone who visits is asked to fill in an evaluation form before they leave. The results are then compiled onto a master sheet.

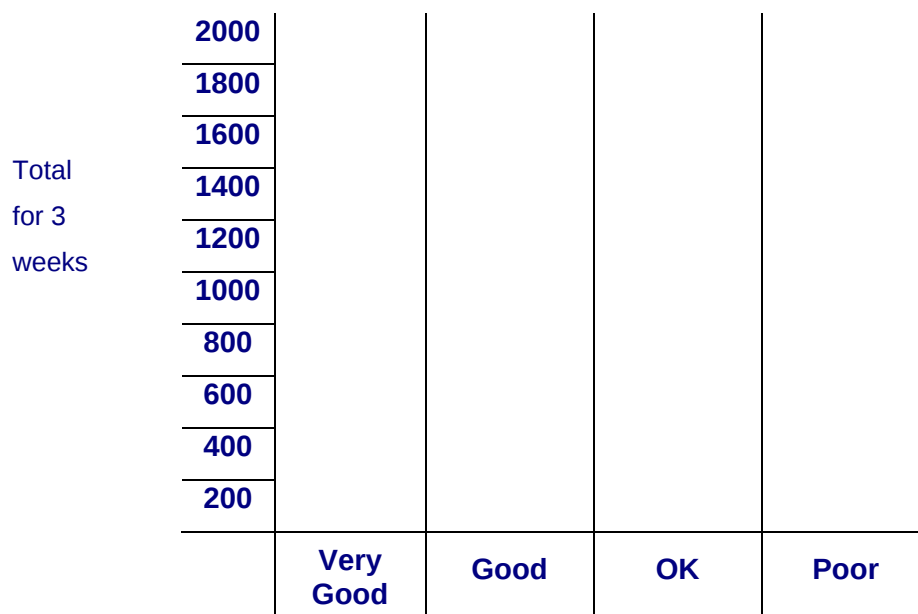
Did you think the exhibition was:	W/E 13.06.08	W/E 20.06.08	W/E 27.06.08
Very good	309	267	324
Good	655	514	631
Satisfactory/OK	278	256	166
Poor	87	43	70

- 1a. What was the **total** number of visitors over the 3 weeks?
- 1b. On average, how many visitors each week thought the exhibition was better than satisfactory? Use the **mean** of the data to calculate the average.
.....
- 1c. The events manager needs the total information putting in a pie chart.

Mark in the following chart, what degree each section will be of the pie chart.

Did you think the exhibition was:	Total for 3 weeks	° needed for pie chart
Very good		
Good		
Satisfactory/OK		
Poor		

1d. Enter the same information on this bar chart.



1e. This is a chart showing the results of a similar evaluation on last year's exhibition. Compare the two sets of data.

Did you think the exhibition was:	W/E 15.06.07	W/E 22.06.07	W/E 29.06.07
Very good	204	158	138
Good	257	301	242
Satisfactory/OK	137	203	160
Poor	97	43	70

What was the **range** in the weekly number of visitors to the exhibition?

.....

- 1f. Using the data to calculate the percentage of visitors who thought the exhibition better than satisfactory, which year's exhibition was the most successful and what was the percentage of people in that year that thought so?

Select the most successful year.

2007

2008

% of people in that year that thought that?%