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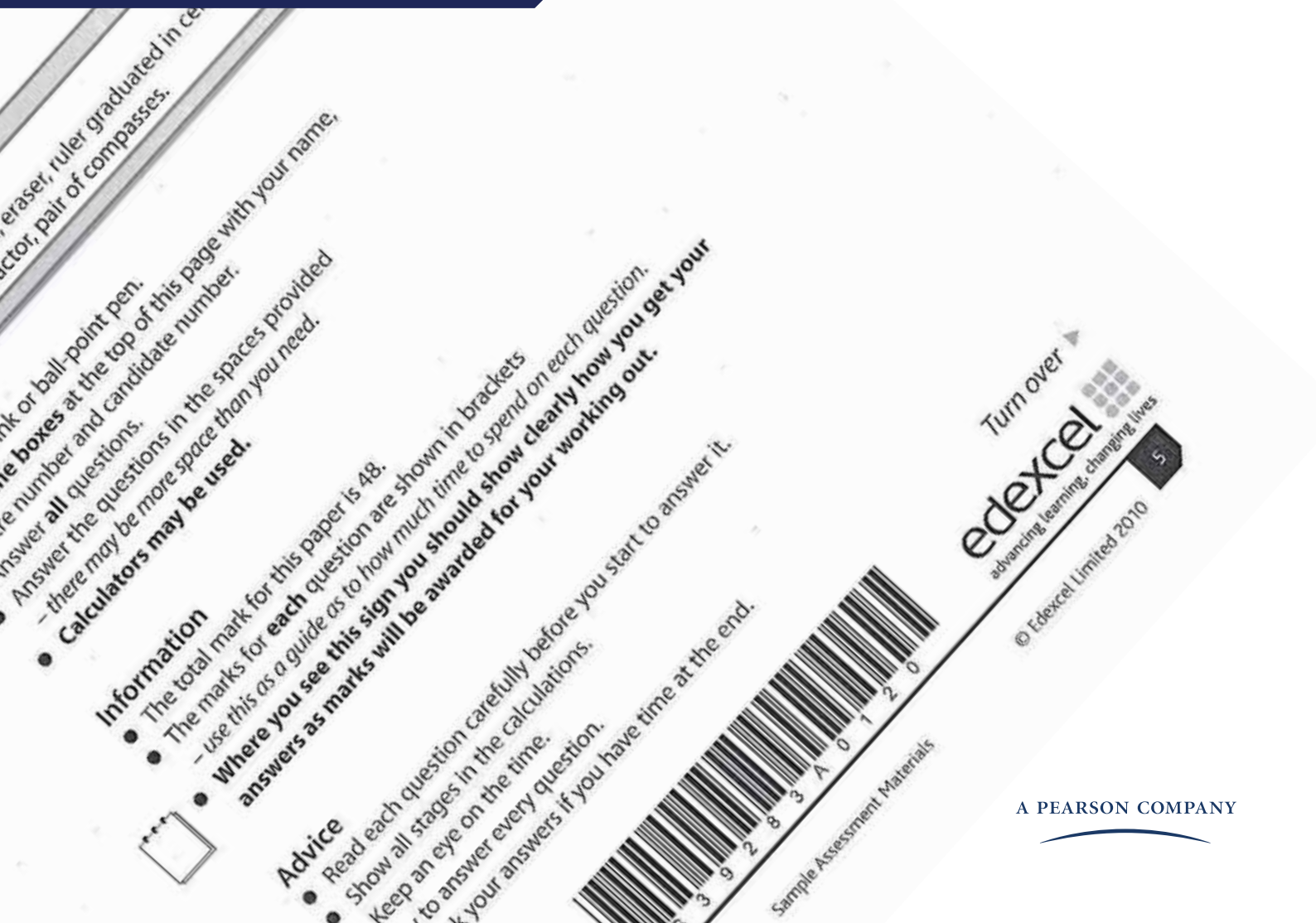
# Sample Assessment Material

## with example answers and examiner marks

These marked sample sssessement papers are to aid in teaching and learning and should be used as a guide only.




A PEARSON COMPANY

Write your name here

| Surname | Other names |
|---|---|
| | |

**Edexcel Functional Skills**

| Centre Number | Candidate Number |
|---|---|
| | |

# Mathematics

## Level 1

Sample Assessment Material
**Time: 1 hour 30 minutes**

Paper Reference
**FSM01/01**

**You must have:**
Pen, calculator, HB pencil, eraser, ruler graduated in centimetres and millimetres, protractor, pair of compasses.

Total Marks
40

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators may be used.**

### Information

- The total mark for this paper is 48.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- **Where you see this sign you should show clearly how you get your answers as marks will be awarded for your working out.**

### Advice

- Read each question carefully before you start to answer it.
- Show all stages in the calculations.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

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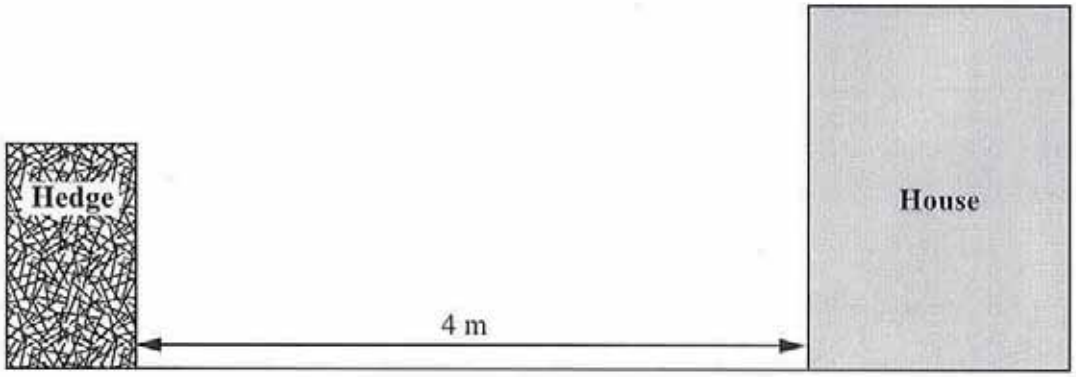
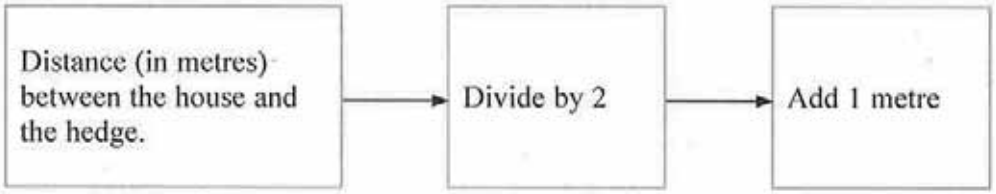
2 A man has complained to Mid-shire Council.
He thinks that his neighbour's hedge is too high.

If the hedge is too high, the council can order the neighbour to cut the hedge.




To find the height allowed for a hedge, the council uses the rule below.




The distance between the house and the hedge is 4 m.

(a) What is the height allowed for the hedge? (2)

Use the box below to show your calculations.

4m ÷ 2 = 2m ✓
2m + 1m = 3m ✓

(2)

The height of the hedge is 3.5 m.

(b) Should the council order the neighbour to cut the hedge? (1)

Use the box below to explain your answer.

Yes the council should order the neighbour to cut the hedge because it is above the limit. ✓
3.5m - 3m = 0.5m over the allowed height. ✓

(1)

The council needs 250 tonnes of mixture for **each day** that grit is spread on the roads.

The council must estimate the cost of the grit needed for next winter.

Salt costs £71.95 per tonne.

Sand costs £12.21 per tonne.

(c) Calculate an estimate for the cost of grit needed for next winter for Mid-shire Council. (3)

Use the box below to show how you get your answer.

- The council will spread grit for 23 days. ✓
- Using the ratio in question b) ~~whe~~ I found out that: salt is 1 part compared to 3 parts sands.
- Out of 250 tonnes mixture, for each day.

Salt = 62.5 tonnes.

Sand = 187.5 tonnes.

Circled values are incorrect but they are the values that the candidate obtained in (b)

- To answer C. we say:

salt = (62.5 tonnes × £71.95.) × 23 days.

= £4496,875 × 23 days ✓

= £103,428,125.

≈ £103428,13

sand = (187.5 tonnes × £12.21) × 23 days.

= £2289,375 × 23 days

= £52655.625 ✓

≈ £52655.63

Method is correct, answer is correct using candidate's values from (b)

Estimated cost of Grit (salt + sand) = £103428,13

+ £52655.63

≈ £156083,76 ✓

(3)

**(Total for Question 3 = 6 marks)**

3 Mid-shire Council spreads grit on the roads when the temperature is low.
The council want to predict how much grit they will need.

The table below shows the predicted number of days at different temperatures for next winter.

| Temperature (°C) | Number of days |
|---|---|
| Above 0°C | 44 |
| 0 to –5 | 4 |
| –6 or below | 19 |

Mid-shire Council spreads grit on the roads when the temperature is **0°C or less.**

(a) How many days will the council spread grit on the roads? (1)

4 + 19 = 23 days. ✓ (1)

The council uses a mixture of salt and sand to make the grit.

The mixture is **1** part salt to **4** parts sand.

The council needs 250 tonnes of mixture each day when the temperature is low.

(b) How much salt and how much sand are used to make **250 tonnes** of this mixture? (2)

Use the box below to show your calculations and your answer.

Ratio = 1 : 4
↓ salt ↓ sand

salt = 1/4 × 250 tonnes
= 62.5 tonnes →

sand = 3/4 × 250 tonnes
= 187.5 tonnes →

0

Wrong fractions used; should be 1/5 and 4/5
– no marks can be awarded.

6 Barry helps people plan which days they work.
He helps Jeba plan her work for three weeks.

Jeba works for two companies, Compulike (C) and Easytype (E).

Jeba is paid £550 for **four** days work at Compulike.

She is paid £110 for **each** day of work at Easytype.

(a) Which company pays Jeba more for her time? (1)

Use the box below to explain your answer.

To compare both jobs I will reduce all payments to per day ✓ £.

(C) 550 ÷ 4 days ✓ = £137·5 per day

(E) £110 each day

∴ Company (C) pays Jeba more money ✓ for her time. (1)

Barry has a choice of two plans for Jeba. The plans are shown below.

**Plan 1**

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| Week 1 | | C | E | C | E |
| Week 2 | | | C | E | |
| Week 3 | C | | | E | |

**Plan 2**

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| Week 1 | | E | | C | E |
| Week 2 | C | | C | E | E |
| Week 3 | | C | E | | |

**SECTION B: Jobs**

**Answer all questions in this section.**

**Write your answers in the spaces provided.**

**4** Barry interviews people for jobs.

He can interview up to **10** people each day.

A computer company wants Barry to interview **62** people.

(a) What is the least number of days that Barry will need for these interviews? (2)

Use the box below to show clearly how you get your answer.

62 divide by 10 (No. per day) = 6.2 days
However question requires answer in full days
which is 7 days. (2)

(b) Show how you can **check** your answer in the box below. (1)

You can check by saying:
7 days X 10 people per day.
= 70 people. can be interviewed in
7 days. any number exceeding
60 people can be interviewed within 7 days.
6 days x 10 people per day.
= 60 days. (1)

**(Total for Question 4 = 3 marks)**

9 Jan wants to choose a digital TV package.
Jan's three options are shown below.

| Package | One-off joining fee | Monthly cost |
|---|---|---|
| 1 | £30.00 | £24.99 |
| 2 | £15.00 | £15.00 per month for the first 3 months then £29.35 each month |
| 3 | None | £36.00 |

Compare the cost of the three TV packages for one year.
Which package is best for Jan? (5)

Use the box below to show your calculations and comparisons.

Package 1 = £30 + (24.99 × 12 month)
= £329.88 ✓

Package 2 = £15 + [(15×3) + (29.35 × 9)]
= £15 + (45 + 264.15) ✓
= £15 + 309.15 ✓
Total = £324.15 ✓

package 3 = £36 × 12 = £432 ✓

Ans package 2 is the best for Jan it is the cheapest option out of the 3. ✓

3 + 2 = (5)

All package prices calculated correctly and correct decision reached.

Jeba wants to earn as much money as she can.

(b) Which plan should Jeba choose? Explain your choice.
Calculate her total pay for this plan. (3)

Use the box below to show your answer and calculations.

candidate has worked out daily rate for C

(C) = £137.5 E = £110

Plan 1

week 1 = £137.50 + £110.00 + £137.50 + £110 = £495 → £247.50

week 2 = £137.50 + £110 = → 247.50.

week 3 = £137.50 + 110 = .

Total = £990 per week. ✓

Fully correct solution.

Plan 2.

week 1 = ~~£137.50 £110.00 + 13~~
£110 + 137.50 + 110 = £357.50

week 2 £137.50 + 137.50 + 110 + 110 = £495.00.

week 3 £137.50 + 110 = 247.50.

Total = £1100.00 ✓

Ans = Jeba should choose plan 2 as she earns more money than plan 1. She earns £110 more following plan 2

(3)

**(Total for Question 6 = 4 marks)**

Use the box below to show your answer.

| | Show. | Suitable time. | duration. |
|---|---|---|---|
| 1) | The Sea Lion. | 12:15 – 12:50 ✓ | 35min. |
| 2) | High Summer | 1:15 – 2:00 ✓ | 45 min. |
| | Warrior Show | 3:00 – 3:35 ✓ | 35mins. |
| | Timmy Boo | 4:15 – 4:35 ✓ | ~~20~~ mins |

Jan will be able to leave the theme park by 4:35 which is before 5pm ✓ if she uses this timetable. (4)

Timmy Boo ~~12:00 – 12:20~~ ✓

High Summer 1:15 – 2:00 — 45 mins

Warria Show 3:00 – 3:35

Sea lion ~~4:15 – 4:50~~ 12:15 – 12:50

Tim boo 4:15 – 4:35

**(Total for Question 8 = 4 marks)**

## SECTION C: Jan

**Answer all questions in this section.**

**Write your answers in the spaces provided.**

**8** A theme park has shows and rides.

The table below gives the start time and the length of show for four shows.

| show | start times (pm) | | | | length of show (mins) |
|---|---|---|---|---|---|
| High Summer | 1.15 | 3.00 | | | 45 |
| Timmy Boo | 12.00 | 2.45 | 4.15 | | 20 |
| The Sea Lion Show | 12.15 | 1.30 | 3.00 | 4.40 | 35 |
| Warrior Show | 1.30 | 3.00 | | | 35 |

Jan wants to take her nephew to see all four shows.

She wants to see each show from start to finish.
She wants to leave the theme park by 5pm.

Show how Jan and her nephew can see all four shows. (4)

p. T. O

This claim form is out of date.

Car travel is now 29p per mile.

(b) How much **extra** should Maria claim for car travel? (2)

Use the box below to show how you get your answer.

30miles × 29p = £8.70 ✓

− £8.10 (at 27p)

£0.60 ✓

Maria should claim £0.60 more than she did. ✓

(2)

**(Total for Question 7 = 5 marks)**

**(Total for Question 9 = 5 marks)**

**10** Jan wants to reduce her water bill.
She fills in this chart for **one week**.

| | Tally |
|---|---|
| shower | 𝍸 I |
| toilet | 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 II |
| washing machine | IIII |

**Key:** 𝍸 = 5

Jan finds the following information on a website.

| | Litres used |
|---|---|
| shower (per shower) | 30 |
| toilet flush (per flush) | 10 |
| washing machine (per use) | 100 |

Jan uses 40 litres of water **per day** for other things, such as cooking, washing up, drinking, and cleaning her teeth.

(a) How much water does Jan use in **one week**? (3)

Use the box below to show how you get your answer.

shower = 6 ✓ x 30 l = 180 L ✓
toilet = 37 ✓ x 10 L = 370 L ✓
washing machine = 4 ✓ x 100 L = 400 L. ✓
Plus 40 L for other uses = 40 L ×
990 L.

∴ Jan uses 990 L.

(2)

should be multiplied by 7 as Jan uses 40 litres per day