**Pearson Edexcel
Functional Skills**

Centre Number

Candidate Number

Mathematics

Level 2

2–6 February 2015
Time: 1 hour 30 minutes

Paper Reference
FSM02/01

You must have:
Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm, protractor, compasses.

Total Marks

My signature confirms that I will not discuss the content of the test with anyone until the end of the 5 day test window.

Signature: _____

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.
- Sign the declaration.
- 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 must show clearly how you get your answers because marks will be awarded for your working out.**
- **Check your working and your answers at each stage.**

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.

Turn over ▶

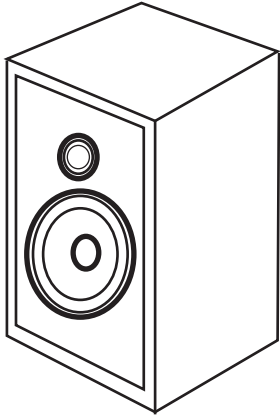P43660A0120

PEARSON

Answer all questions in this section.
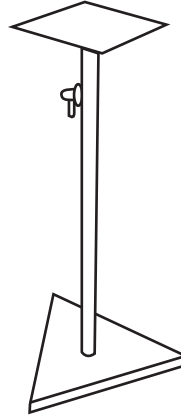
Write your answers in the spaces provided.

1 Andy is the manager of a music band.

He wants to buy 2 new speakers and 2 new stands for the band.

He finds these prices.

Speaker
normal price £124.50

Speaker stand
normal price £22

Special offer
save 12%

2 speakers and 2 stands
for £259

Andy wants to know if the offer does save 12%.

(a) Does Andy save 12% if he uses the offer?

(5)

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

Andy needs to work out if the players in the band need ear protection.

The first table shows information about the noise the drummer experiences on the day of a concert.

Activity	Noise level points
travel	1
setting up	2
break	5
sound check	31
playing music	1563
pack up and travel	1

Andy is going to provide ear protection if the total of the noise level points gives a noise level of 97 dB or greater.

He uses the table below to find the noise level.

Total noise level points	1000	1250	1600	2000	2500
Noise level (dB)	95	96	97	98	99

(b) Does Andy provide ear protection for the drummer?

(3)

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

(Total for Question 1 is 8 marks)

2 Andy books the band to play a concert.

They are going to have £370 after their costs.

Andy plans to save $\frac{1}{5}$ of the money for new equipment.

The rest of the money is divided equally among the 6 people in the band.

Andy says

> Each person will get more than £50.

Is Andy correct?
Show why you think this.

(4)

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

(Total for Question 2 is 4 marks)
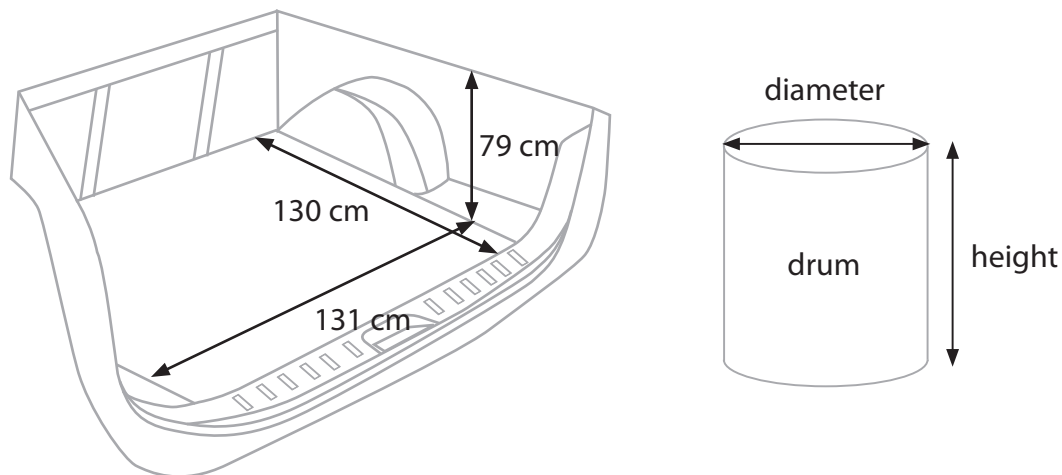
3 Claude is the drummer in the band.

He needs to take his drums to the concert in a hire car.

Claude needs to work out how to fit all his drums in the car boot.

Claude makes a list of his drum sizes.

Drum type	Number of drums	Diameter of each drum	Height of each drum
bass (B)	1	60 cm	53 cm
snare (S)	1	40 cm	17 cm
tom tom (T)	2	34 cm	25 cm
floor tom (F)	1	44 cm	46 cm

Claude knows that the available space in the car boot is a cuboid with dimensions 131 cm by 130 cm by 79 cm.

The drums cannot be stacked on top of each other.

They must be placed upright as shown in the diagram.

Show how Claude can put all of his drums in the car boot.
You must show how the dimensions of the drums fit the car boot. **(4)**

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

(Total for Question 3 is 4 marks)

P 4 3 6 6 0 A 0 7 2 0
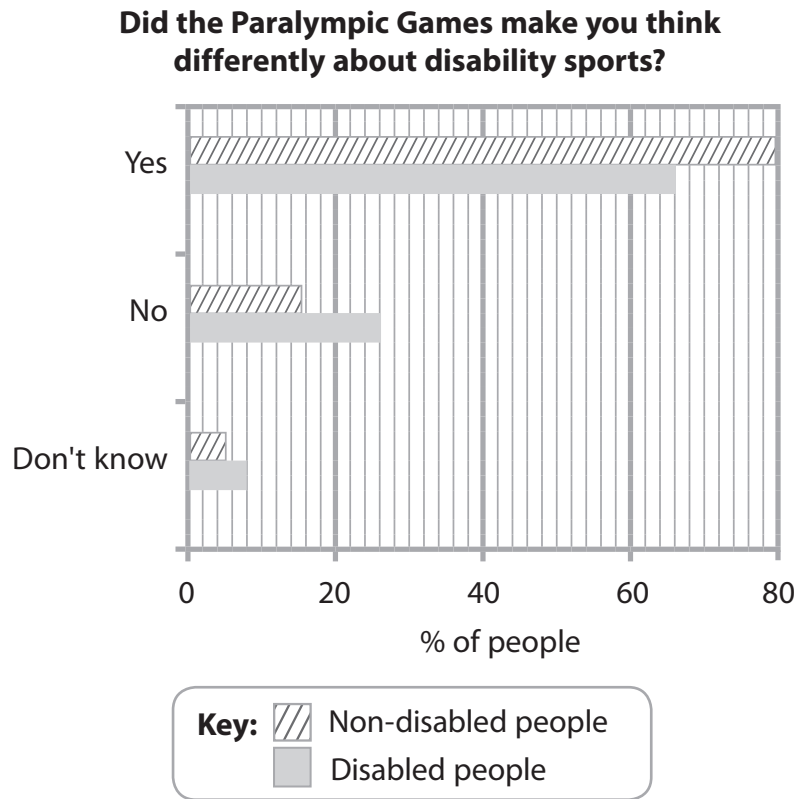
SECTION B: Disability sports

Answer all questions in this section.

Write your answers in the spaces provided.

4 Jason plays wheelchair basketball.

He wants to know if the Paralympic Games made people think differently about disability sports.

Jason finds this graph on the internet.

Did the Paralympic Games make you think differently about disability sports?

% of people

Key: /// Non-disabled people
☐ Disabled people

Jason needs to write a piece for a newsletter.

(a) Use the graph to write a statement to compare the data for Jason.

(2)

Write your statement in the box below.

Jason is the top scorer in his wheelchair basketball team.
He wants to be the top scorer in the league.

The top scorer in the league has a mean average of 28.5 points per game over 6 games.

These are the points Jason has scored so far.

	Game 1	Game 2	Game 3	Game 4	Game 5	Game 6
Points per game	28	23	37	31	16	

(b) How many points does Jason need to get in game 6 to have a higher mean average than 28.5?

(3)

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

Jason wants to work out the points differences for the local teams in the league.

He knows

points difference = points for − points against

The table shows some information about the local teams at the end of the season. Jason has started to work out the points differences.

Team	Played	Points for	Points against	Points difference
Kings	12	887	615	272
Rhinos	12	757	610	147
Champs	12	513	767	
Titans	12	660	716	
Steels	12	788	598	

Jason wants to put the teams in order of points difference.

(c) Complete the table and put the teams in order of points difference.
Show how you check your calculation. **(4)**

You may use the box below for your working and your answer.

Use the box below to show your check.

(Total for Question 4 is 9 marks)

5 Maria wants to play wheelchair basketball.
She finds a wheelchair she likes.

The wheelchair costs £2065
Maria gets a grant of £1500 to help with the cost.

Maria borrows the rest of the money from her mother.
She pays her mother back £20 each week.

Maria says

> It will take me more than 6 months to pay my mother back.

Is Maria correct?
Show why you think this.

(3)

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

(Total for Question 5 is 3 marks)

6 Ben is a disabled sprinter.
He wears blades when he runs.

Ben needs to know the maximum height he is allowed to be when he is wearing his blades.

He has to use this formula.

> $h = 1.40d + 57.8$
>
> h = maximum height (cm)
>
> d = distance from centre of chest to fingertip (cm)

Ben knows the distance from the centre of his chest to his fingertip is 0.93 m.

He thinks 1.8 m is the maximum height he is allowed to be.

Use the formula to see if Ben is correct.

(4)

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

(Total for Question 6 is 4 marks)

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P 4 3 6 6 0 A 0 1 3 2 0

SECTION C: School garden

Answer all questions in this section.

Write your answers in the spaces provided.

7 Sasha organises a barbecue to raise money for the garden at her local school.
She needs to buy some burgers.

She writes down this information about the fat content for some burgers.

Luxury burgers

Fat content

10g of fat in
one 80g burger

Economy burgers

Fat content

15%

Sasha wants to choose the burgers that are lower in fat.

(a) Which burgers should Sasha choose?

(3)

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

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Sasha is going to make some vegetarian sausages.
These are the instructions for the vegetarian sausage mix.

175 g of sausage mix makes 10 sausages

Add 40 ml of cold water to each
25 g of sausage mix

Sasha is going to make 24 sausages.

(b) Calculate how much water Sasha needs to use for 24 sausages.

(5)

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

(Total for Question 7 is 8 marks)

8 Sasha needs to work out where to have the barbecue.

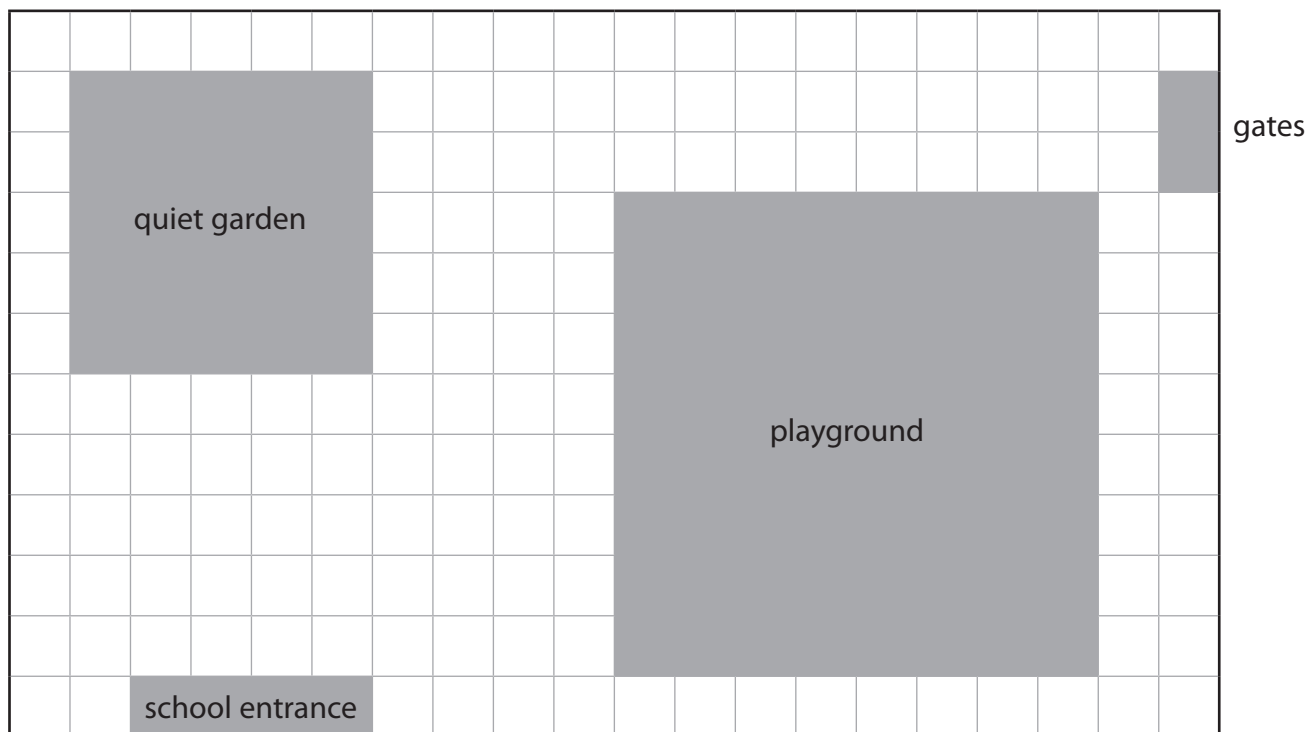The space for the barbecue is going to have an area of 16 m².

It is going to be square or rectangular and

- at least 3 m from the quiet garden
- at least 4 m from the playground
- at least 2 m away from the school entrance.

Sasha makes a plan of part of the school grounds.

> Draw the space for the barbecue on the plan.
> Remember to use the key. **(3)**

gates

quiet garden

playground

school entrance

Key: 1 square on the plan is 2 m by 2 m in the school grounds

(Total for Question 8 is 3 marks)

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9 Scott helps in the school garden.
He is going to buy some seeds for the pupils to plant.

They are going to plant the seeds in the greenhouse at a temperature of 50˚F.

Scott wants to buy the seeds that give the highest growing success.
He finds this table.

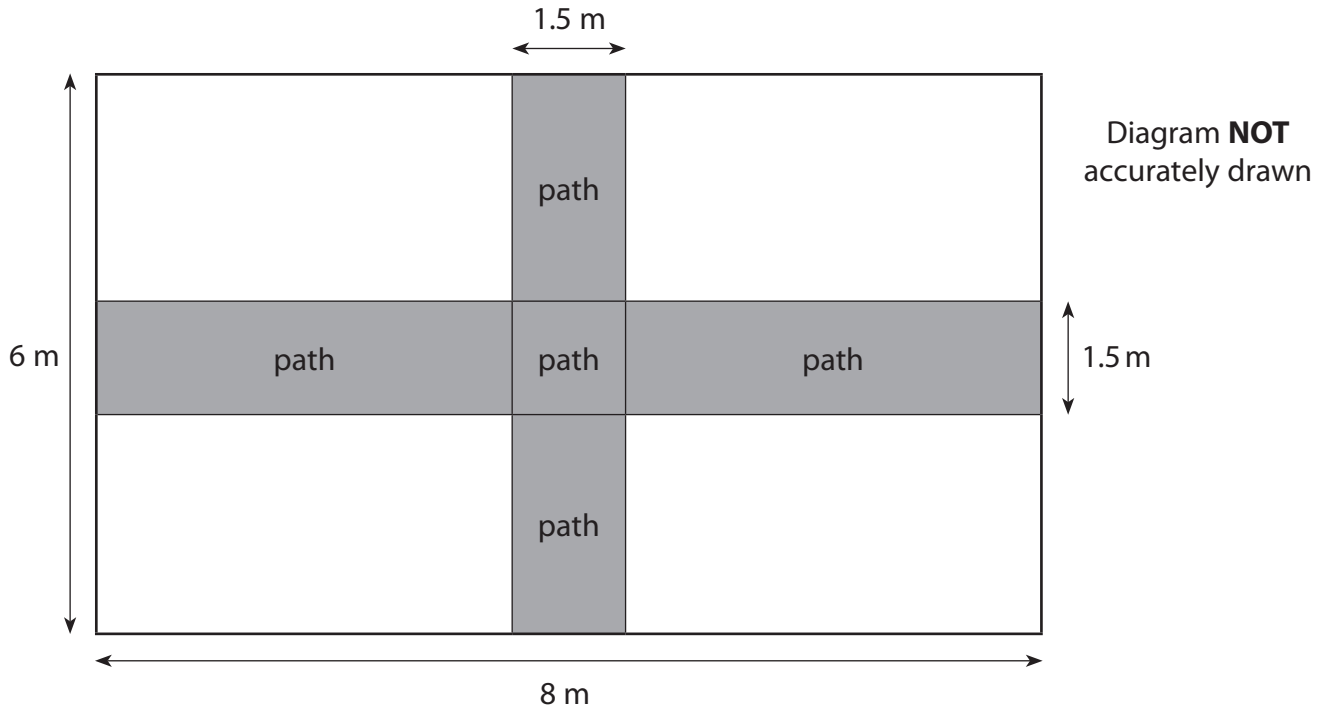| Growing success in percent						
Seeds	**41°F**	**50°F**	**59°F**	**68°F**	**77°F**	**86°F**
Beans	0	1	52	82	90	88
Beets	53	72	88	90	97	89
Cabbage	27	78	93	0	99	0
Carrots	48	93	95	96	96	95
Cauliflower	0	58	60	0	63	45
Celery	72	70	40	97	65	0
Lettuce	98	97	99	96	99	12
Onions	97	98	98	96	97	91
Parsnips	87	79	85	89	77	51
Peas	89	94	93	93	94	86
Radish	42	76	97	95	97	95
Spinach	96	91	82	52	28	32
Sweetcorn	0	47	97	97	98	91
Tomatoes	0	82	98	98	97	83
Turnips	14	79	98	99	100	99

(a) Choose the seeds for Scott.

(1)

Write your answer in the box below.

Scott wants to buy some bark to make paths in the vegetable garden.
He needs to know the area of the paths to work out how much bark to buy.

Scott makes a sketch of the vegetable garden.

Diagram **NOT** accurately drawn

Key: path ▓ vegetables ☐

(b) What is the total area of the paths?

(4)

P 4 3 6 6 0 A 0 1 8 2 0

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

(Total for Question 9 is 5 marks)

TOTAL FOR PAPER IS 48 MARKS

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