Write your name here

Surname

Other names

Pearson Edexcel Functional Skills

Centre Number

Candidate Number

Mathematics

Level 1

11 – 15 June 2018
Time: 1 hour 30 minutes

Paper Reference
FSM01/01

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 a **black** 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 to how much time to spend on each question.*
- **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.**
- **This sign shows where marks will be awarded for showing your check.**

Advice

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

Turn over ▶

Pearson

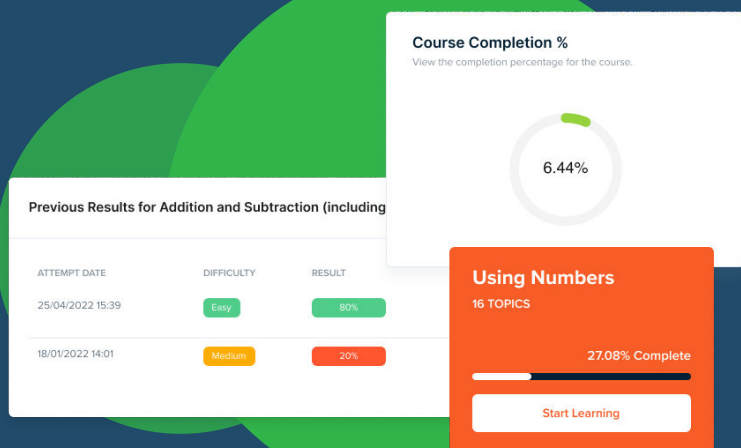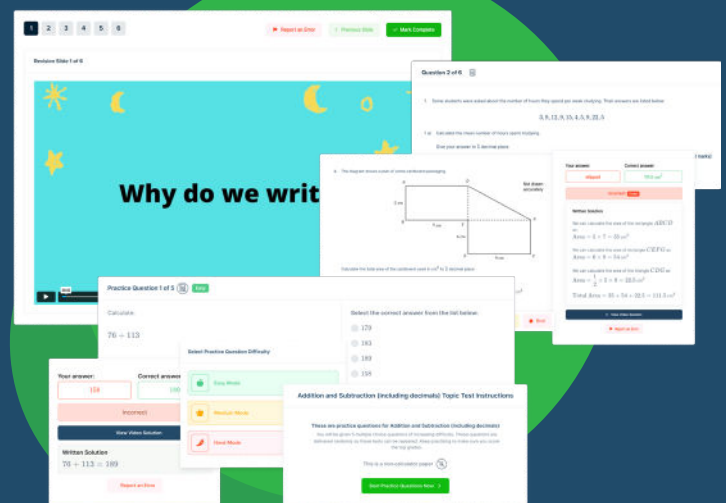# FUNCTIONAL SKILLS ONLINE COURSES

✅ Your answers are analysed to determine your Current Level

✅ Suggested courses for you to enrol on based on your calculated level

✅ Always know the level you are currently working at

✅ Determine when you are ready to sit your exam

✅ Explainer videos on every topic

✅ Quick-fire style mutiple choice questions

✅ Test your knowledge with exam-style questions

✅ Written solutions for all questions

✅ See your progress through as you progress through each topic area

✅ Get your average scores for practice questions, topic tests and mock exams

✅ View all practice question, topic test and mock exam attempts over time

✅ View historical attempts to analyse your progress over time

Or visit

passfunctionalskills.co.uk

SECTION A: New car

Answer all questions in this section.

Write your answers in the spaces provided.

1 Michael wants to buy a new car.

He needs to pay

- a cash deposit of £5875
- £229.20 each month for 24 months.

(a) Work out the total amount Michael will pay.
    Show a check of your working.

(4)

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

£5875 + £229.20 × 24 =
£5875 + £5500.80 =
£11375.80

Write your check in the box below.

☑

£11375.80 − £5500.80 = £5875

Michael needs to buy car insurance.
He finds this information.

insurance company	cost each month	excess	legal expenses	breakdown cover
A	£84.99	£350	yes	no
B	£88.90	£300	yes	yes
C	£91.50	£250	no	no
D	£94.33	£250	no	yes
E	£95.99	£250	yes	yes
F	£102.50	£300	yes	yes

Michael wants car insurance that

- has breakdown cover
- has an excess of less than £300
- costs the lowest amount each month.

(b) Which insurance company should Michael use?

(1)

Use the box below to show clearly your answer.

D

Michael wants to buy winter tyres for the car.

The normal price for the tyres is £400
There is a discount of 15% off the normal price.

Michael thinks 15% of £400 is £50

(c) Is 15% of £400 equal to £50?

(2)

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

$15\% = 0.15$

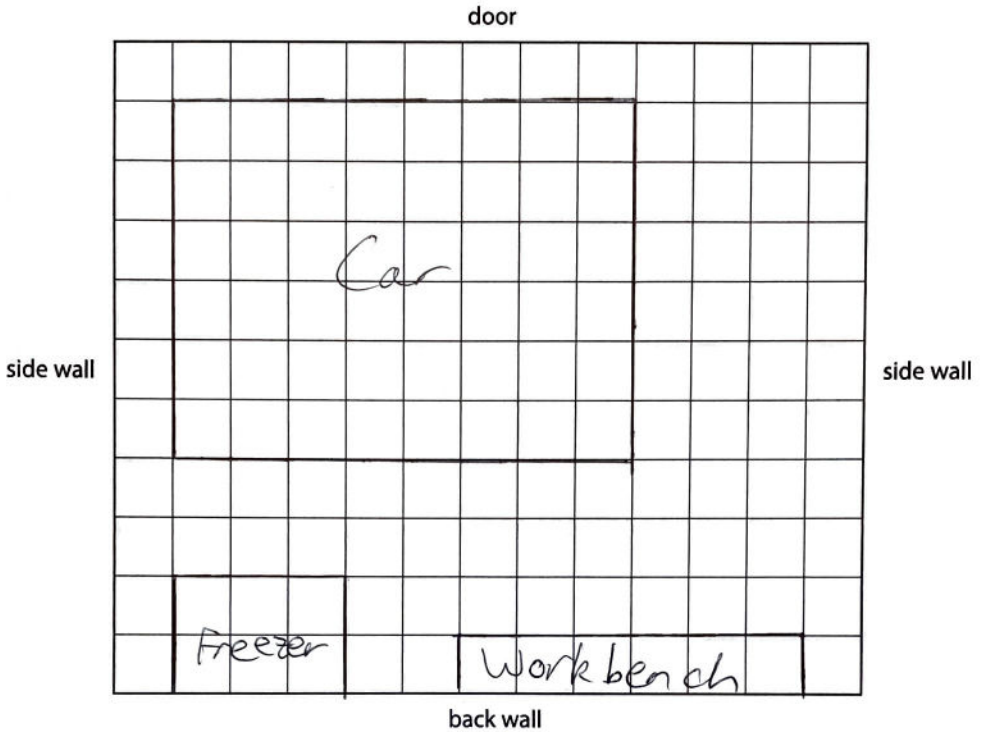$0.15 \times £400 = £60 \neq £50$.

No.

(Total for Question 1 is 7 marks)

2 Michael parks the car in his garage.

He wants to know if there is also space for a freezer and a workbench in the garage.

Michael makes a scale drawing of the garage floor.

Scale drawing of the garage floor

door

side wall   side wall

back wall

| **Key** | 1 square on the grid represents 50 cm by 50 cm on the garage floor |

The car takes a rectangular space 4 m by 3 m.

The freezer needs a rectangular space 1.5 m by 1 m.
The workbench needs a rectangular space 3 m by 50 cm.

The longest side of the freezer and the longest side of the workbench
must go along a wall.

There must be a gap of at least
  • 50 cm between the space for the car and **any** other object
  • 1 m between the space for the freezer and the space for the workbench.
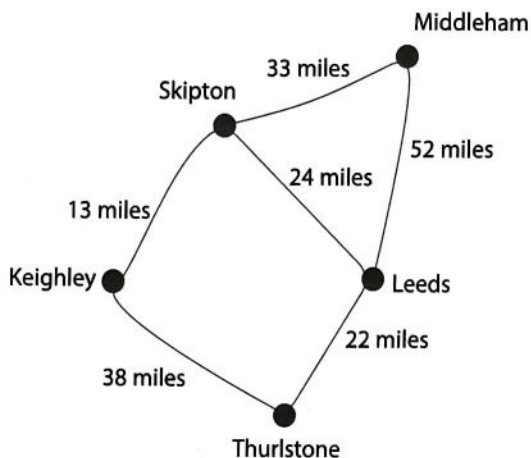
Draw the space for the freezer and the space for the workbench on the grid
above.   (4)

(Total for Question 2 is 4 marks)

3 Michael plans a trip in his new car.
He wants to visit Skipton and Middleham.

Michael will start and end his trip in Thurlstone.
He draws this sketch to show distances between places.

Middleham

33 miles

Skipton

52 miles

24 miles

13 miles

Keighley   Leeds

22 miles

38 miles

Thurlstone

Michael wants to use the sketch to find the shortest route.
He knows the cost of petrol to drive 10 miles is £1

Michael thinks the cost of petrol to drive the shortest route will be less than £16

Is Michael correct?
Show why you think this.   (5)

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

Shortest route:

Thurlstone $\xrightarrow{22}$ Leeds $\xrightarrow{24}$ Skipton $\xrightarrow{33}$ Middleham $\xrightarrow{52}$ Leeds $\xrightarrow{22}$ Thurlstone

22 + 24 + 33 + 52 + 22 = 153 miles.

153 ÷ 10 = £15.30 < £16.

Michael is correct.

SECTION B: The exhibition

Answer all questions in this section.

Write your answers in the spaces provided.

4   Kay is organising an exhibition on health and beauty.
The exhibition will be open from <u>11 am to 4 pm.</u>

There will be

> 3 different exhibition rooms with presentations
> a lunch break for <u>45 minutes</u>
> a coffee break for <u>30 minutes.</u>

Lunch and coffee will be served in the restaurant.

Kay wants people to spend an equal amount of time in each exhibition room.
She thinks this means people will spend at least 1 hour 20 minutes in each
exhibition room.

(a) Is Kay correct?
   Show why you think this.   (4)
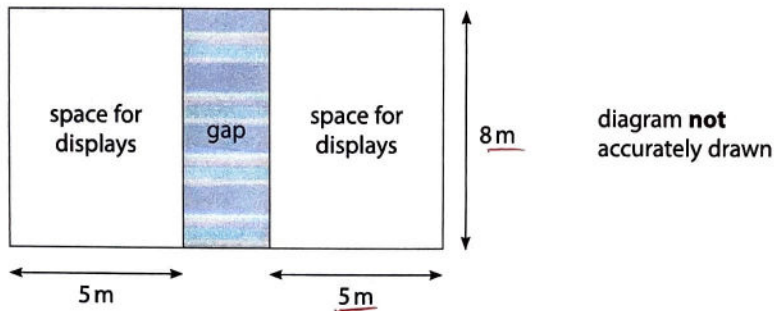
Use the box below to show clearly how you get your answer.

5 hours = 300 mins.

300 − 45 − 30 = 225 mins.

225 ÷ 3 = 75 mins

= 1h 15m in each room.

No.

Kay wants to plan the displays in a room.

Each display needs a space of 3 m²

Kay has a sketch of the room.
All corners are right angles.

| space for displays | gap | space for displays | 8 m | diagram **not** accurately drawn |

5 m   5 m

Kay thinks there is enough space for at least 25 displays.

(b) Is there enough space for at least 25 displays in the room?

(4)

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

$8 \times 5 = 40 m^2$.

$40 \times 2 = 80 m^2$.

$80 \div 3 = 26.66... > 25$.

Yes.

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Jermaine will have a perfume display in one of the rooms.
He has 2 litres of perfume to give away to visitors.

Jermaine has 120 empty bottles.
Each bottle can hold 15 ml of perfume when full.

(c) Does Jermaine have enough perfume to fill up all the bottles?
   Show a check of your working. (4)

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

2 litres = 2000 ml
120 × 15 = 1800 ml

1800 < 2000

Yes.

Write your check in the box below.

☑

$1800 \div 15 = 120$

(Total for Question 4 is 12 marks)

5 Kay asks 84 people to complete a survey about the exhibition.
Only 21 people complete the survey.

Kay wants to know what 21 is as a fraction of 84

(a) Write down 21 as a fraction of 84
Write your answer as a fraction in its simplest form.

(2)

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

21   42   63   84
1   2   3   4

$$\frac{21}{84} = \frac{1}{4}$$

Kay wants to record the ratings from the survey.
She starts to fill in the tally chart below.

rating	tally	number of people
poor	||	2
ok	||||	4
good	|||||		6
excellent	||||| ||		9

Kay still needs to put these ratings into the tally chart and complete the last column of the table.

poor	good	good	excellent	poor
excellent	excellent	good	good	excellent

(b) Complete the tally chart fully for Kay.

(2)

(Total for Question 5 is 4 marks)

SECTION C: Snooker

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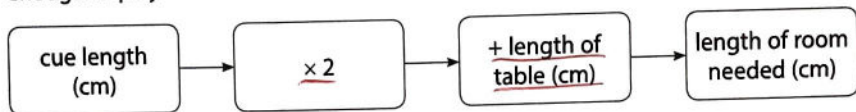
Write your answers in the spaces provided.

6   Talvin wants to put a snooker table in a room in his house.

The length of

- the snooker table is 270 cm
- the room is 5.5 m
- the cue Talvin uses to play snooker is 145 cm.

Talvin uses this rule to find out if the length of the room is enough to play snooker on this table.

| cue length (cm) | → | × 2 | → | + length of table (cm) | → | length of room needed (cm) |

(a) Is the length of this room enough to play snooker on this table?

(4)

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

145 × 2 = 290
290 + 270 = 560cm .

5.5m = 550cm < 560cm

No.

14

Talvin needs to buy some snooker chalk to use with the cue.
He compares these two offers.

Offer 1	Offer 2
4 pieces of chalk	6 pieces of chalk
£1.80	£2.28

Talvin thinks that each piece of chalk is 10p cheaper with offer 2

(b) Is each piece of chalk 10p cheaper with offer 2?
Show a check of your working.   (5)

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

$$£1.80 \div 4 = £0.45$$
$$£2.28 \div 6 = £0.38.$$

$$£0.45 - £0.38 = £0.07$$
$$7p \text{ cheaper}.$$

No.

Write your check in the box below.

☑ $$£0.45 \times 4 = £1.80$$

(Total for Question 6 is 9 marks)

7   Talvin is having a snooker competition with his friends.
There are 5 people in the competition

   Paul, Ravi, Sam, Talvin and Violet.

Every person must play one game with each of the other people.

There is only one snooker table.
No one can play more than two games in a row.

Talvin plans who plays who in each game in the competition.
Paul and Ravi will play game one.

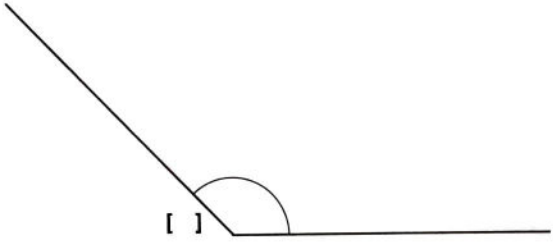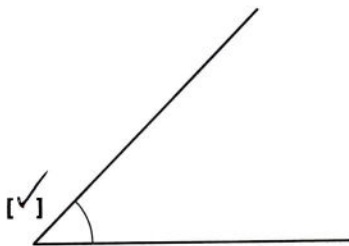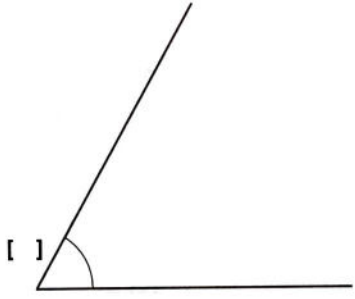(a) Plan who plays who in the rest of the games in the competition.

(3)

Use the box below to show your answer clearly.

Game	Players
1	Paul and Ravi
2	Sam and Talvin
3	Paul and Violet
4	Ravi and Sam
5	Paul and Talvin
6	Ravi and Violet
7	Paul and Sam
8	Ravi and Talvin
9	Sam and Violet
10	Talvin and Violet

Talvin wants the white ball to move at a 45° angle to the edge of the table.

(b) Which of these angles is 45°?

(1)

Tick [✓] to show your answer.

[ ]

[ ]

[✓]

[ ]

The friends play 4 games of snooker in $2\frac{1}{2}$ hours.

The first game lasts for 45 minutes.

Talvin says

"Each of these games lasted a mean time of 45 minutes."

(c) Is Talvin correct?
    Show why you think this.

(3)

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

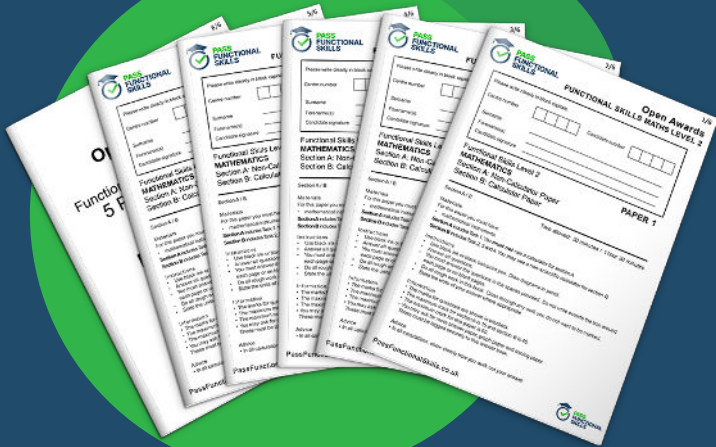$2\frac{1}{2}h = 150$ min

$\frac{150}{4} = 37.5$ mins $<$ 45 min
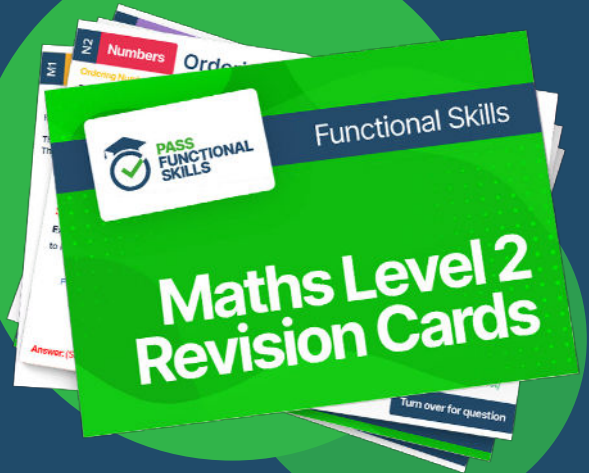
No.

(Total for Question 7 is 7 marks)

TOTAL FOR PAPER IS 48 MARKS

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