Please check the examination details belo	ow before ente	ering your candidate information
Candidate surname		Other names
Centre Number Candidate Nu	ımber	
Pearson Edexcel Level	1/Lev	el 2 GCSE (9–1)
Friday 10 November	r 202 3	
Morning (Time: 1 hour 30 minutes)	Paper reference	1MA1/2F
Second half of the	nane	er • •
1	• •	
PAPER 2 (Calculator) Fo Tier	unaatio	on San San San San San San San San San Sa
You must have: Ruler graduated in ce		- 11
protractor, pair of compasses, pen, HB Formulae Sheet (enclosed). Tracing pa	•	

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.
- You must show all your working.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- Calculators may be used.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
 - use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶







18 (a) Work out $\frac{9.8 + 6.8}{4.2 \times 2.1}$

Give your answer as a decimal.

Write down all the figures on your calculator display.

(2)

(b) Write your answer to part (a) correct to 2 decimal places.

(1)

(Total for Question 18 is 3 marks)

10	(0)	Work out	11.7	+ 8.9
10	(a)	Work out	5.3	× 2.2

Give your answer as a decimal.

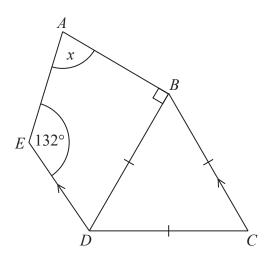
Write down all the figures on your calculator display.

		(2)
(b)	Write your answer to part (a) correct to 3 significant figures.	

(Total for Question 18 is 3 marks)

(1)

19 The diagram shows a quadrilateral ABDE and an equilateral triangle BCD.



CB is parallel to DE.

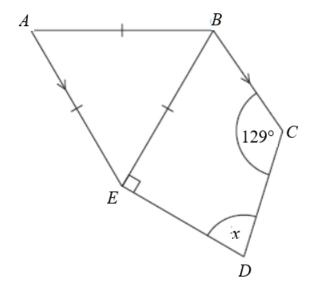
Angle $AED = 132^{\circ}$

Work out the size of the angle marked *x*. You must give a reason for each stage of your working.

(Total for Question 19 is 4 marks)



19 The diagram shows a quadrilateral *BCDE* and an equilateral triangle *ABE*.



AE is parallel to BC.

Angle $BCD = 129^{\circ}$

Work out the size of the angle marked x.

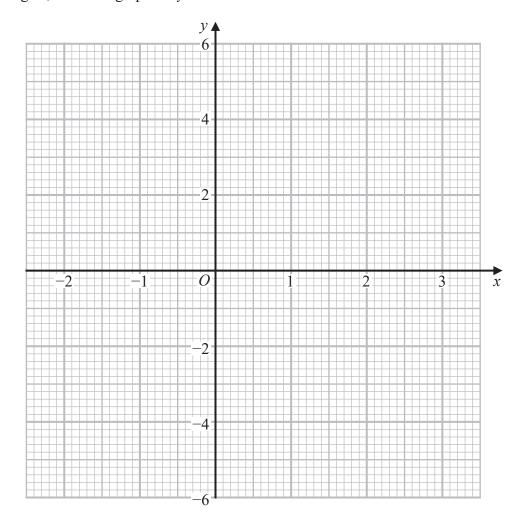
You must give a reason for each stage of your working.

20 (a) Complete the table of values for $y = x^2 - x - 2$

x	-2	-1	0	1	2	3
у	4			-2		

(2)

(b) On the grid, draw the graph of $y = x^2 - x - 2$ for values of x from -2 to 3



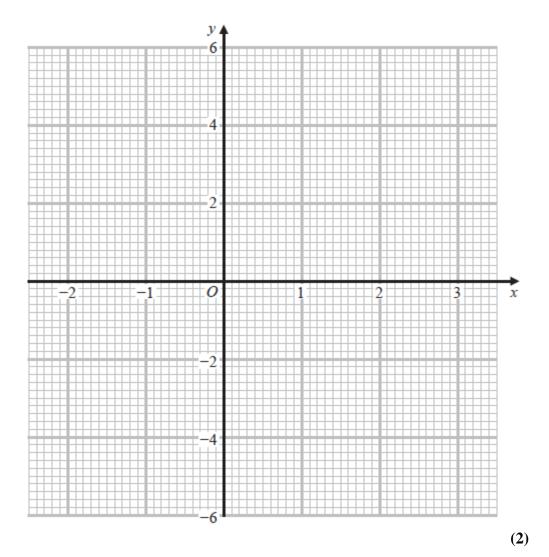
(2)

(Total for Question 20 is 4 marks)

20 (a) Complete the table of values for $y = x^2 - 2x - 4$

х	-2	-1	0	1	2	3
у	4			-5		

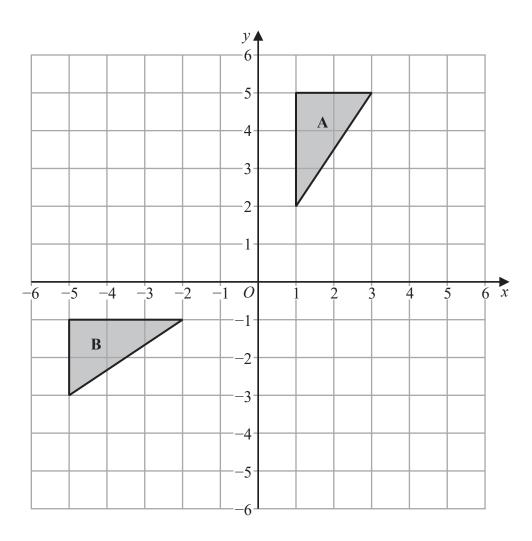
(b) On the grid, draw the graph of $y = x^2 - 2x - 4$ for values of x from -2 to 3



(Total for Question 20 is 4 marks)

(2)

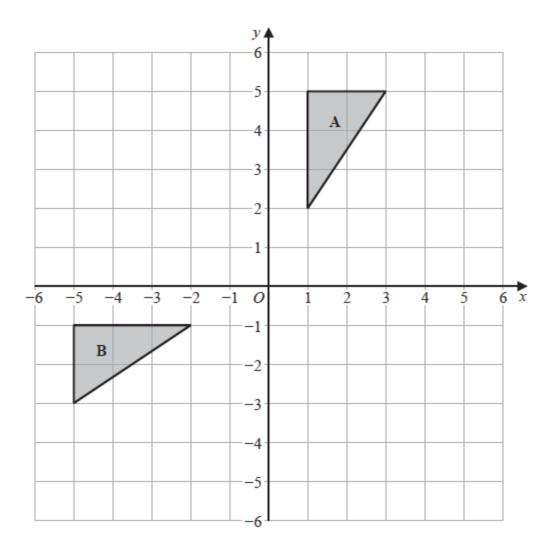
21



Describe fully the single transformation that maps triangle A onto triangle B.

(Total for Question 21 is 2 marks)





	(Total for Question 21 is 2 marks)
Describe fully the single transformation that maps triar	

22 (a) Expand and simplify 3(2y-5)+7(y+2)

(2)

(b) Factorise fully $6x^2 + 15x$

(2)

(c) Make g the subject of the formula f = 3g + 11

(2

(Total for Question 22 is 6 marks)

22	(a)	Expand and simplify	7(3y+5) + 3(y-4)	
				(2)
	(b)	Factorise fully $12x^2 - 9x$,	
				(2)
	(c)	Make q the subject of th	e formula $p = 4q - 13$	
				(2)

(Total for Question 22 is 6 marks)

23 Karen is organising a party for a charity.

She spends

£100 on food

£120 on a hall

£80 on a DJ.

Karen sells 54 tickets for the party.

Each ticket costs £7.50

Work out the percentage profit Karen makes for the charity.

(

(Total for Question 23 is 4 marks)



Sharon is organising a fund-raising lunch for a charity.	
£150 on food £170 on a hall £60 on a guest speaker	
Sharon sells 66 tickets to the lunch. Each ticket costs £9.50	
Work out the percentage profit Sharon makes for the charity.	
	.%
(Total for Question 23 is 4 mark	

24 Andrew invests £4500 in a savings account for 2 years.

The account pays compound interest at a rate of 3.4% per year.

Calculate how much Andrew has in this savings account at the end of the 2 years.

£.....

(Total for Question 24 is 2 marks)

25 Solve 5x - 14 = 52 - x

x =

(Total for Question 25 is 3 marks)

x =

(Total for Question 25 is 3 marks)

26 Chris, Debbie and Errol share some money in the ratio 3:4:2 Debbie gets £120

Chris then gives some of his share to Debbie and some of his share to Errol. The money that Chris, Debbie and Errol each have is now in the ratio 2:5:3

How much money did Chris give to Errol?

£.

(Total for Question 26 is 4 marks)

27 The bearing of port B from port A is 147°

Work out the bearing of port A from port B.

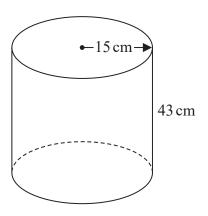
.

(Total for Question 27 is 2 marks)



26	William, Yvonne and Zak share some money in the Yvonne gets £150	e ratio 4 : 5 : 3
	Zak then gives some of his share to Yvonne. The money that William, Yvonne and Zak each have	ve is now in the ratio 3:4:2
	How much money did Zak give to Yvonne?	
		£(Total for Question 26 is 4 marks)
		(Total for Question 20 is 4 marks)
27	The bearing of city B from city A is 237° Work out the bearing of city A from port B .	
		(Total for Question 27 is 2 marks)

28 The diagram shows an empty tank in the shape of a cylinder.



The cylinder has radius 15 cm and height 43 cm.

Water flows into the tank at a rate of 0.47 litres per minute.

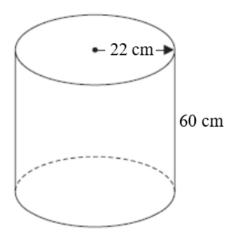
Calculate the number of minutes it will take to completely fill the tank. Give your answer correct to the nearest minute.

minutes

(Total for Question 28 is 4 marks)



28 The diagram shows an empty tank in the shape of a cylinder.



The cylinder has radius 22 cm and height 60 cm.

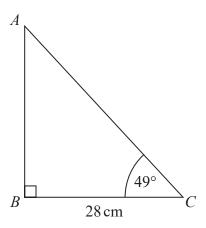
Oil flows into the tank at a rate of 0.78 litres per minute.

Calculate the number of minutes it will take to completely fill the tank.

Give your answer correct to the nearest minute.

(Total for Question 28 is 4 marks)

29 *ABC* is a right-angled triangle.

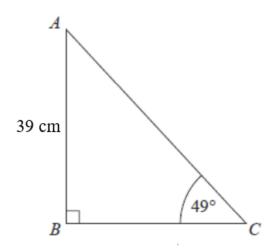


Calculate the length of *AB*. Give your answer correct to 3 significant figures.

..... cn

(Total for Question 29 is 2 marks)

29 *ABC* is a right-angled triangle.



Calculate the length of *BC*.

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 29 is 2 marks)

30 Solve the simultaneous equations

$$3x + y = -4.5$$

$$4x + 3y = -3.5$$

 $\chi =$

y =

(Total for Question 30 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

30	Solve the simultaneous	ous equations
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$$2x + y = -3.5$$

$$5x + 3y = -7.5$$

X			••	•	••	••	••	•	••	• •	••	••	•	••	•	•	••	•	••	•	• •	••	•	••	•	•	•	•	•••	•	••	•	••	•	••	••	•	•
y	=			•		••		•	••	• •		••	•		•	• •		•		•	• •		•		•	•		•				•		•		••		•
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TOTAL FOR PAPER IS 80 MARKS

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