

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)



18 (a) Work out $\frac{11.7 + 8.9}{5.3 \times 2.2}$

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.

.....
(1)

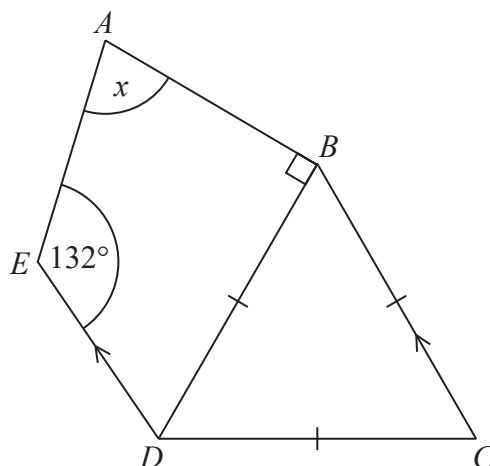
(Total for Question 18 is 3 marks)

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



CB is parallel to DE .

Angle $AED = 132^\circ$

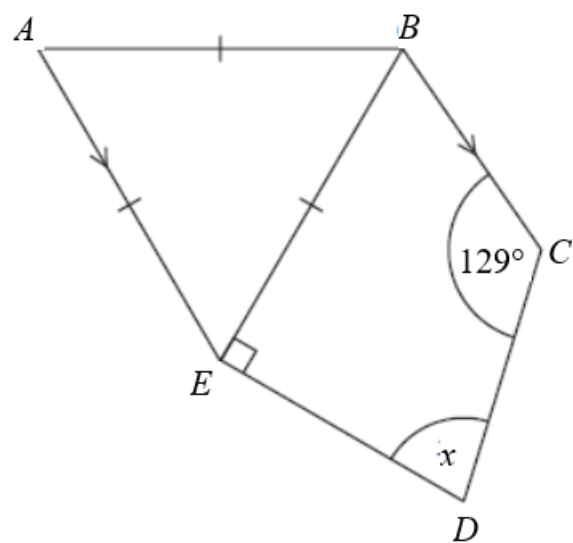
Work out the size of the angle marked x .

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.

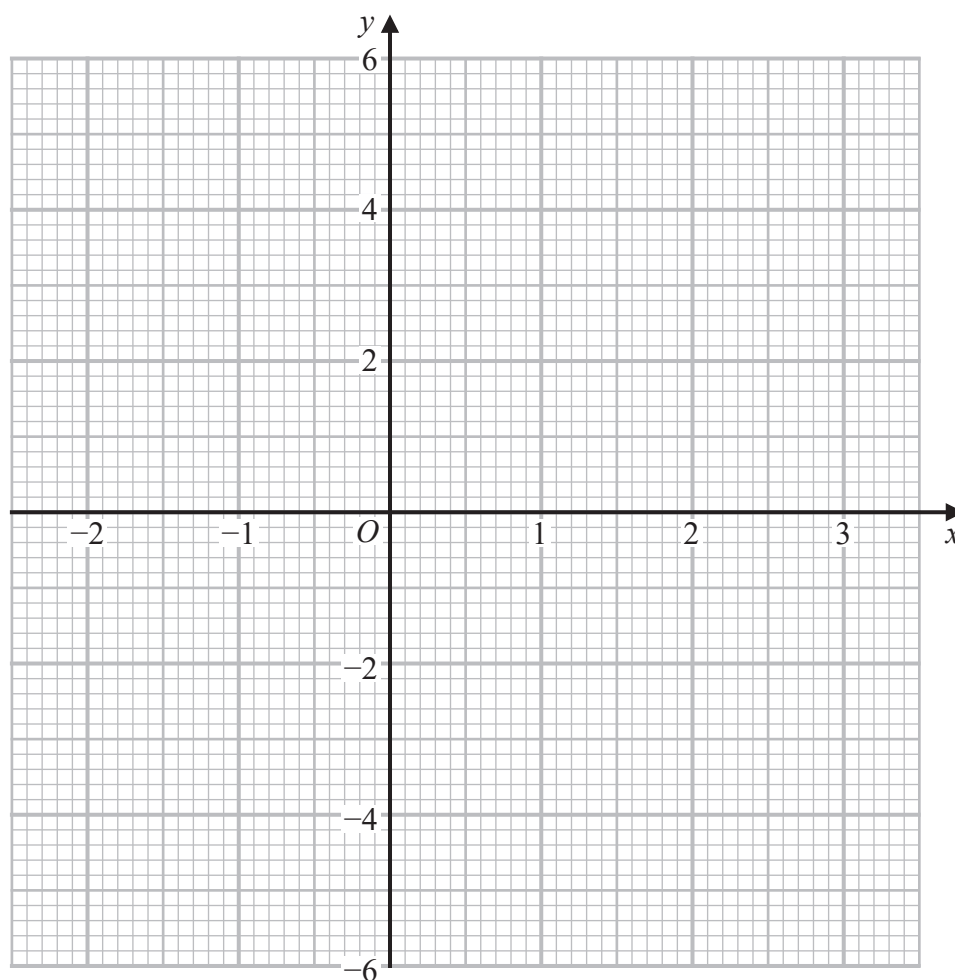
.....°
 (Total for Question 19 is 4 marks)

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

x	-2	-1	0	1	2	3
y	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)

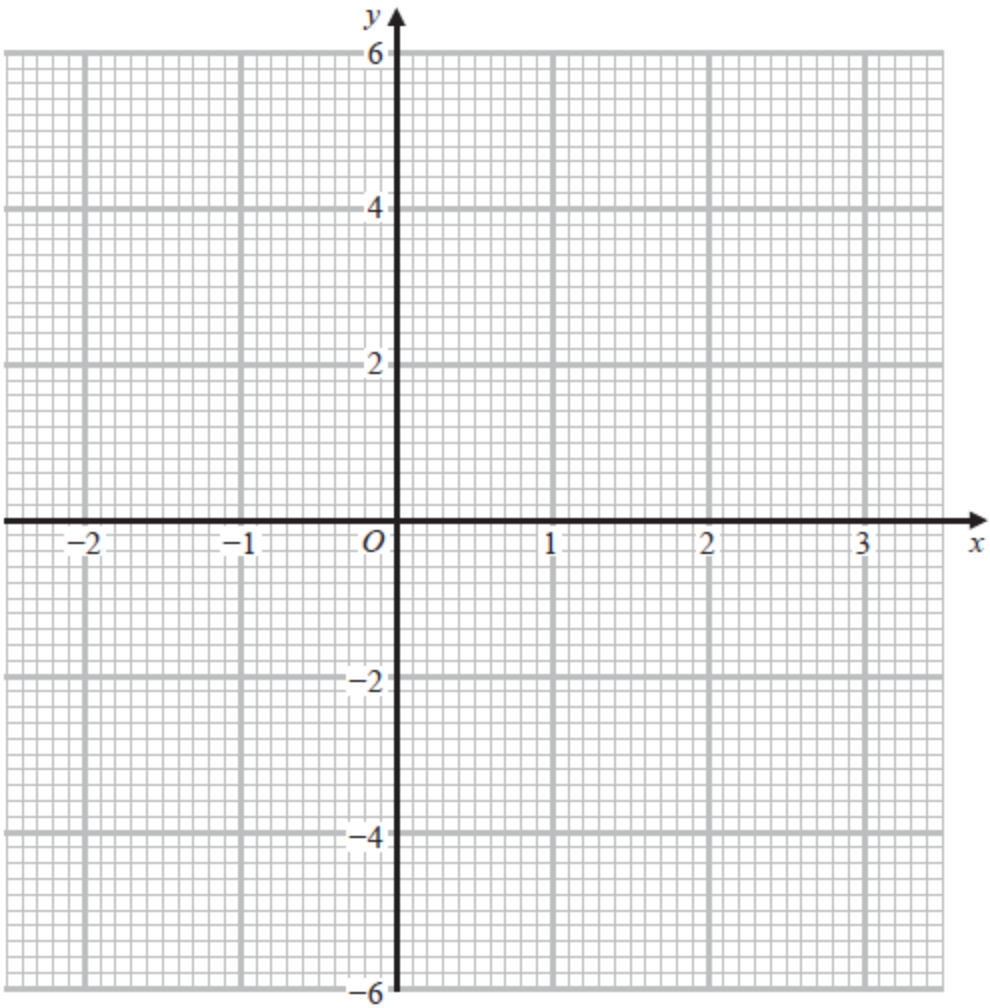


20 (a) Complete the table of values for $y = x^2 - 2x - 4$

x	-2	-1	0	1	2	3
y	4			-5		

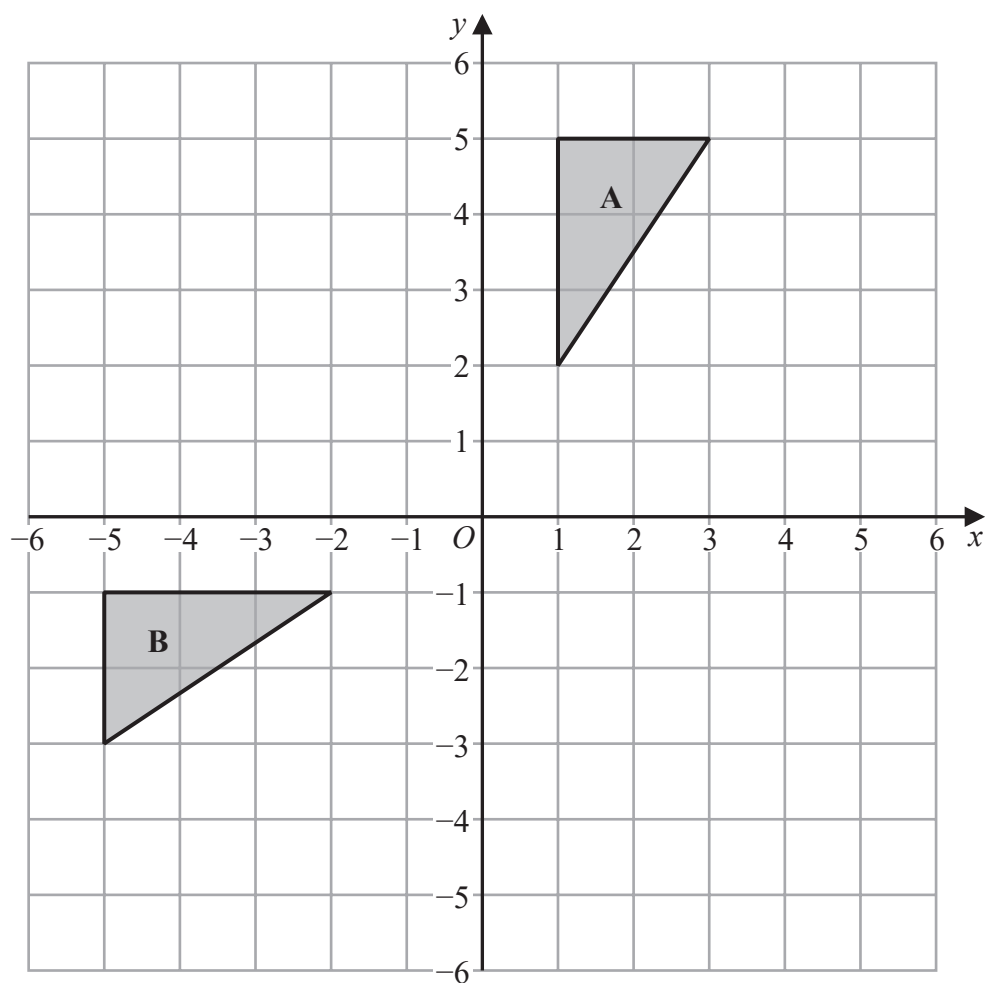
(2)

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



(2)

(Total for Question 20 is 4 marks)



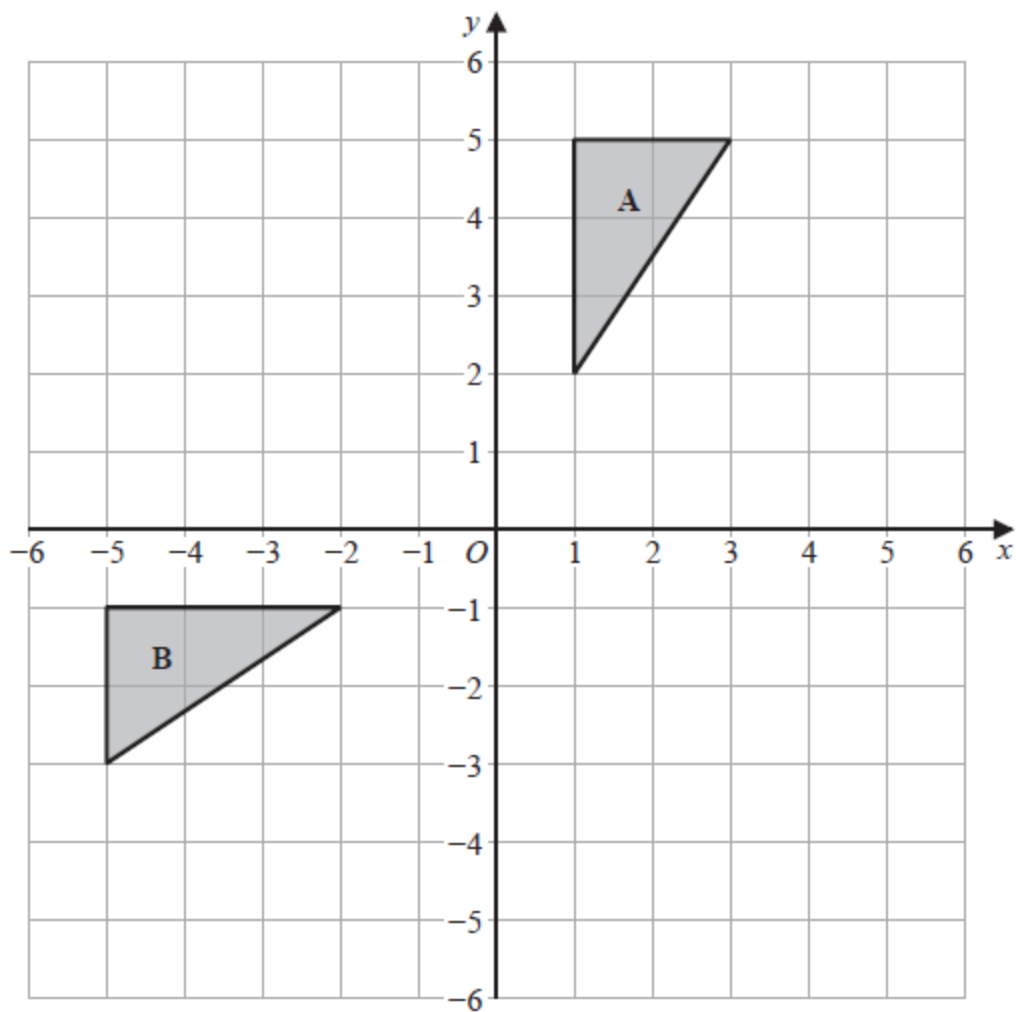
Describe fully the single transformation that maps triangle **A** onto triangle **B**.

.....

.....

.....

(Total for Question 21 is 2 marks)



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

.....

.....

.....

(Total for Question 21 is 2 marks)

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 the 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)



23 Sharon is organising a fund-raising lunch for a charity.

She spends

£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 marks)

- 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)



- 24** Geoff invests £7500 in a savings account for 3 years.
The account pays compound interest at a rate of 2.8% per year.

Calculate how much Geoff has in this savings account at the end of the 3 years.

£.....

(Total for Question 24 is 2 marks)

- 25** Solve $6x + 23 = 43 - 2x$

$x =$

(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 .

o

(Total for Question 27 is 2 marks)



- 26** William, Yvonne and Zak share some money in the ratio 4 : 5 : 3
Yvonne gets £150

Zak then gives some of his share to Yvonne.

The money that William, Yvonne and Zak each have is now in the ratio 3 : 4 : 2

How much money did Zak give to Yvonne?

£.....

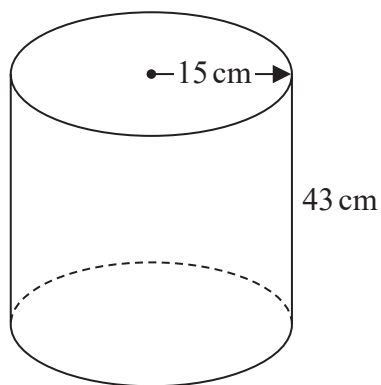
(Total for Question 26 is 4 marks)

- 27** The bearing of city *B* from city *A* is 237°
Work out the bearing of city *A* from port *B*.

.....^o

(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.

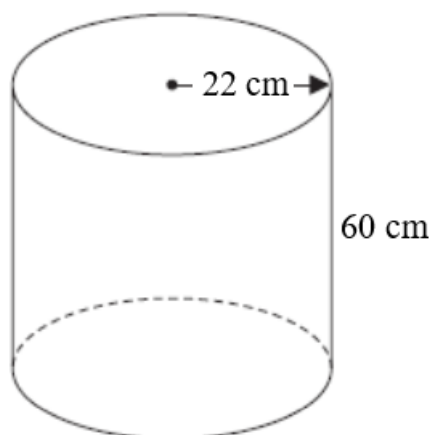
Calculate the number of minutes it will take to completely fill the tank.
Give your answer correct to the nearest minute.

..... 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.

..... minutes

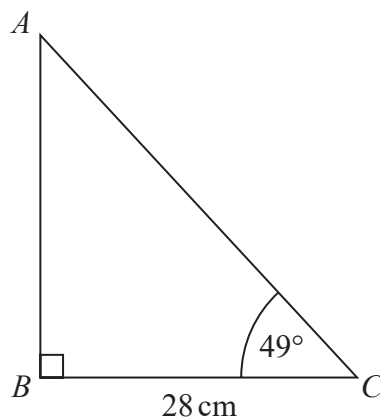
(Total for Question 28 is 4 marks)

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29 ABC is a right-angled triangle.



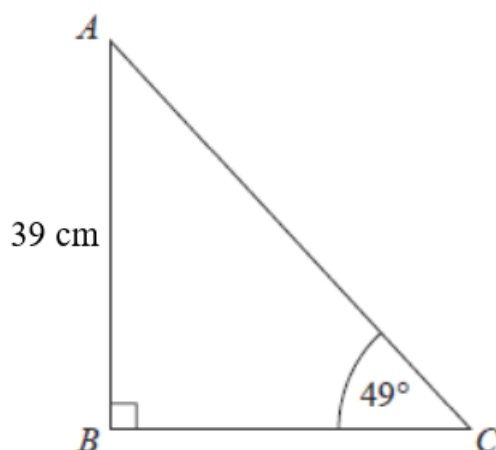
Calculate the length of AB .
Give your answer correct to 3 significant figures.

..... cm

(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

$$3x + y = -4.5$$

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

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 30 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

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30 Solve the simultaneous equations

$$2x + y = -3.5$$

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

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 30 is 3 marks)

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