# "BEST GUESS" - JUNE 2016 EDEXCEL LINEAR PAPER 2 (Foundation)

*This paper has been made up of questions for the topics that we believe are worth revising prior to paper 2 (Edexcel Linear) – as with all these things there are **no guarantees** and are our "Best Guess". This is meant to act as a practice paper and not meant to emulate the real thing – the order of the questions are not intended to act as a guide as to the level of difficulty so aim to have a go at every question.   Good Luck*

	Marks	Actual	😡 😐 🙂
1. Pictograms	4		
2. Function Machines	3		
3. 3 D forms	2		
4. Numbers & words/Bidmas/Place Value/Fractions	5		
5. Using Formulae	5		
6. Use of calculator	3		
7. Ratio	3		
8. Translations	2		
9. Stem & Leaf	3		
10. Two way tables	4		
11. Averages from a table	4		
12. Product of prime factors	3		
13. Angle facts	4		
14. Reverse averages	3		
15. Proportion – recipes	3		
16. Exchange rates	5		
17. Inequalities	3		
18. Nth term	2		
19. Plans & elevations	2		
20. Factorise/Indices	4		
21. Best Value	3		
22. Substitution	3		
23. Tessellations	2		
24. Estimate of the mean/Frequency polygons	6		
25. Multiples in context	4		
26. Enlargements	2		
27. Area of a triangle/Pythagoras	5		
28. Coordinates	4		
TOTAL	100		

Q1. Here is a pictogram. It shows the number of goals scored by Ali, by Ben and by Charlie.

Ali	◯◯
Ben	◯◯◔
Charlie	◯◖
Darren	

Key: ◯ represents 4 goals
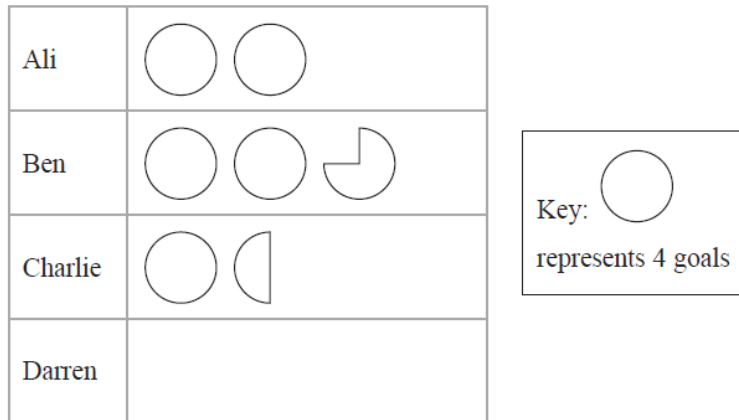
(*a*) Who scored the most number of goals, Ali or Ben or Charlie?

.... **(1)**

(*b*) Write down the number of goals scored by Charlie.

.... **(1)**

(*c*) How many more goals than Ali did Ben score?

.... **(1)**

Darren scored 10 goals.

(*d*) Show this information on the pictogram.

(1)

Q2. Here is a two-stage number machine.

input ⟶ [x 5] ⟶ [- 6] ⟶ output
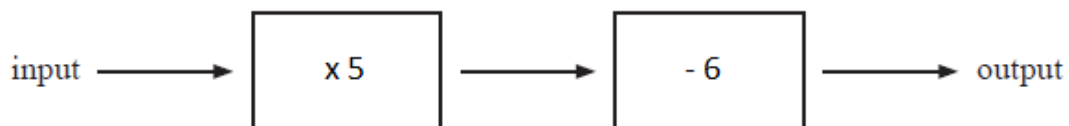
(*a*) Complete the table.

input	output
1	-1
3	9
6	....
....	46

(2)

Here is a different two-stage number machine.

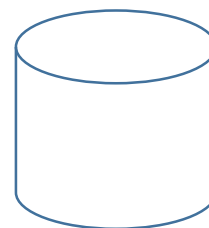input ⟶ [÷ 7] ⟶ [....................] ⟶ output
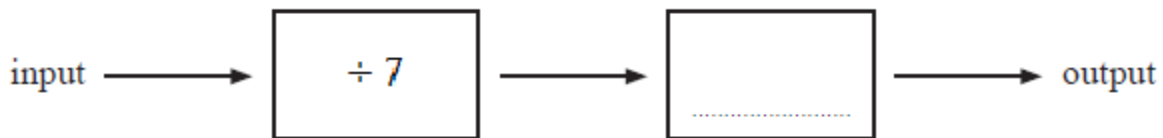
When the input is 28, the output is 10.

(*b*) Complete the number machine.

(1)

Q3. Write down the mathematical name of each of these 3-D shapes.

(i) ....   (ii) ....

(2)

Q4. (*a*) Write the number **8478** to the nearest hundred.

.... **(1)**

(*b*) Write the number **7402** in words.

.... **(1)**

(*c*) Work out   72 × 1000

.... **(1)**

(*d*) Work out $\frac{1}{4}$ of 32 kg.

.... kg **(1)**

(*e*) Work out   9 + 16 ÷ 4

.... **(1)**

Q5. You can use this rule to work out the total hire charge, in pounds (£), for hiring a satellite phone.

> Total hire charge = number of weeks × 80 + 40

Ismail wants to hire a satellite phone for 4 weeks.

(*a*) Work out the total hire charge.

£ .... **(2)**

Dominik hires a satellite phone.

His total hire charge is £ 920

(*b*) For how many weeks did he hire the phone?

.... weeks **(3)**

Q6.

(a)   Use your calculator to work out $\dfrac{2}{1.5 + 2.45}$

Write down all the figures on your calculator display.

You must give your answer as a decimal.

.... (2)

(b)   Write your answer to part (a) correct to 2 decimal places.
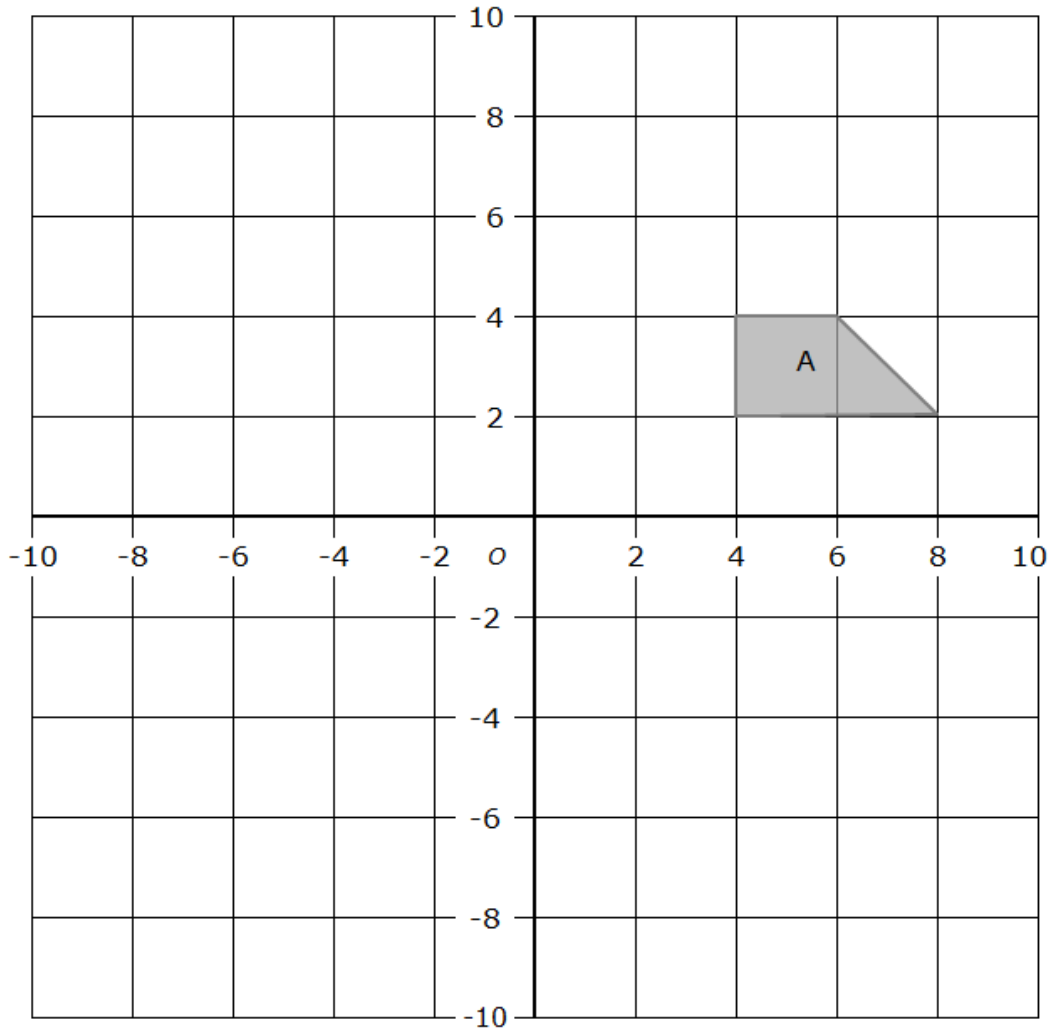
.... (1)

Q7.   Mel, Emma and Hannah share some money in the ratio 5:9:6

Mel and Emma share £56. How much does Hannah get?

(3)

Q8.

Translate shape A by $\begin{pmatrix} -8 \\ -2 \end{pmatrix}$

Label the new shape **B.**

(2)

Q9. Use the stem and leaf diagram to find the below information

1	3 5 7 7
2	0 6 8 8 8 9
3	1 5 5 5 5 6 8 9
4	1 5
5	2

Key: 5│2 means 5.2 cm

(a)   What is the mode.

.... cm (1)

(b)   Work out the median.

.... cm (2)

Q10. Janice asks 100 students if they like biology or chemistry or physics best.

   38 of the students are girls.

   21 of these girls like biology best.

   18 boys like physics best.

   7 out of the 23 students who like chemistry best are girls.

Work out the number of students who like biology best.

(4)

Q11. Lois asked 32 women about the number of children they each had.

   The table shows information about her results.

Number of children	Frequency
0	9
1	6
2	7
3	8
4	2
More than 4	0

a) Find the mode

(1)

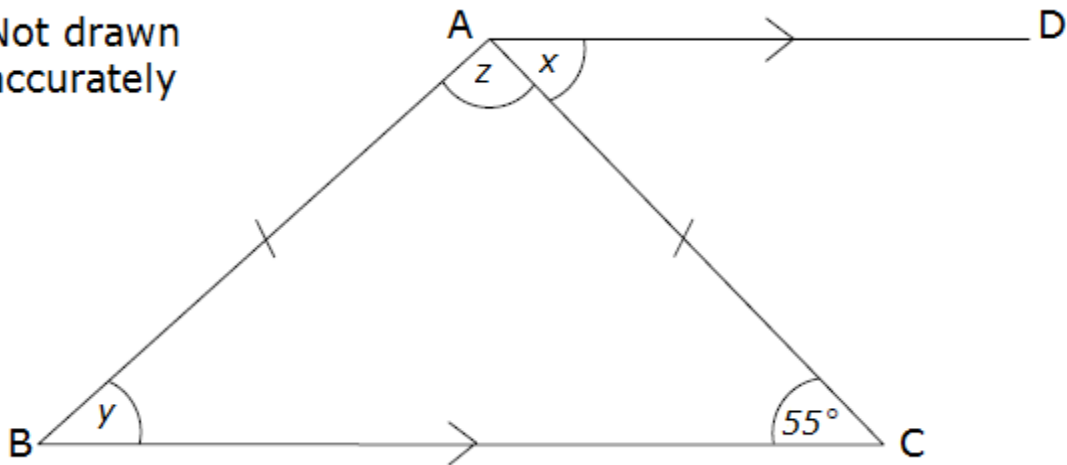b) Calculate the mean

(3)

Q12.   Write 525 as a product of its prime factors

(3)

_Q13._ *ABC* is an isosceles triangle with *AB = AC*.

BC is parallel to *AD* and angle *BCA* = 55º.

Not drawn accurately

Work out the size of the angles marked *x, y* and *z*.

Answer   *x* = _____ degrees

y = _____ degrees

z = _____ degrees

(4)

Q14. Hertford Juniors is a basketball team.

At the end of 10 games, their mean score is 35 points per game.

At the end of 11 games, their mean score has gone down to 33 points per game.

How many points did the team score in the 11th game? show your working out.

(3)

Q15. Here are the ingredients needed to make 16 gingerbread men.

Ingredients
to make **16** gingerbread men

160 g flour
40 g ginger
110 g butter
30 g sugar

Laura wants to make 24 gingerbread men. Work out how much of each of the ingredients she needs.

----------------------------- g flour
----------------------------- g ginger
----------------------------- g butter
----------------------------- g sugar

(3)

Q16.   In August, Eddie hired a car in Italy. The cost of hiring the car was £620

The exchange rate was £1 = €1.25

(a)   Work out the cost of hiring the car in euros (€).

€.......... (2)

Eddie bought some perfume in Italy. The cost of the perfume in Italy was €50. The cost of the same perfume in London was £42

The exchange rate was still £1 = €1.25

(b)   Work out the difference between the cost of the perfume in Italy and the cost of the perfume in London.
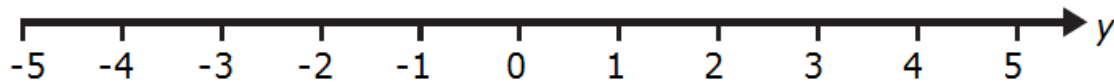
Give your answer in pounds (£).

£.......... (3)

Q17. (i)   *n* is an integer.   -1 ≤ n < 4

List the possible values of *n*.

(2)

(ii) On the number line, show the inequality -2 < y < 3

(1)

Q18. Here are the first five terms of an arithmetic sequence.

2   6   10   14   18

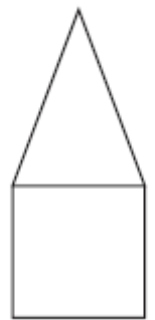a) Find, in terms of n, an expression for the nth term of this sequence.

(2)

Q19. Here are the front elevation, side elevation and the plan of a 3-D shape.

In the space below, draw a sketch of the 3-D shape.

Front elevation   Side elevation

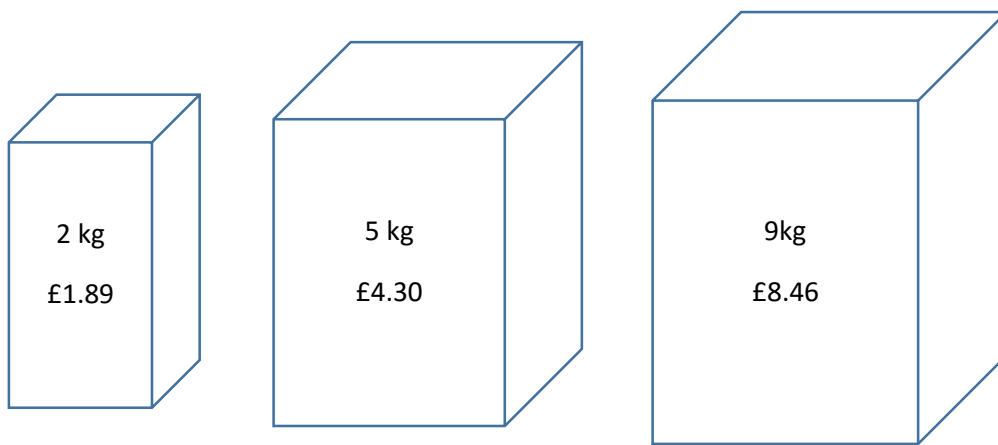Plan

(2)

Q20. (*a*)   Factorise $4x + 12$

.... **(1)**

(*b*) Factorise $y^2 - 4y$

.... **(1)**

(*c*) Simplify fully $\dfrac{p^2 \times p^5}{p^3}$

.... **(2)**

Q21. Soap powder is sold in three different sizes of box.

A 2 kg box of soap powder is £1.89
A 5 kg box of soap powder is £4.30
A 9 kg box of soap powder is £8.46

Work out which size of box of soap powder gives the best value for money.

You must show how you get your answer.

(3)

Q22   a = 2
        b = - 4

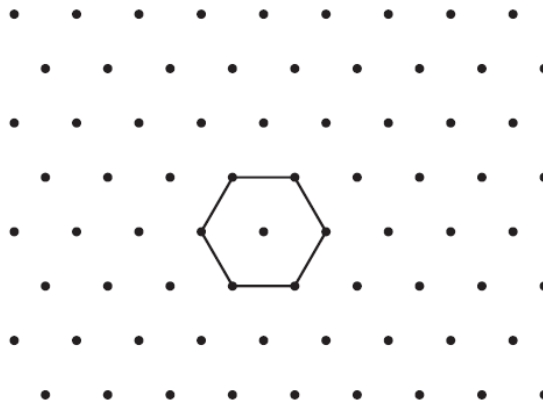(a) Work out the value of 2a + 3b

.... (2)

(b) If x = 4 Work out the value of $3x^2$

.... (1)

Q23. On the grid below, show how the hexagon tessellates.

You should draw at least 6 hexagons.

(2)

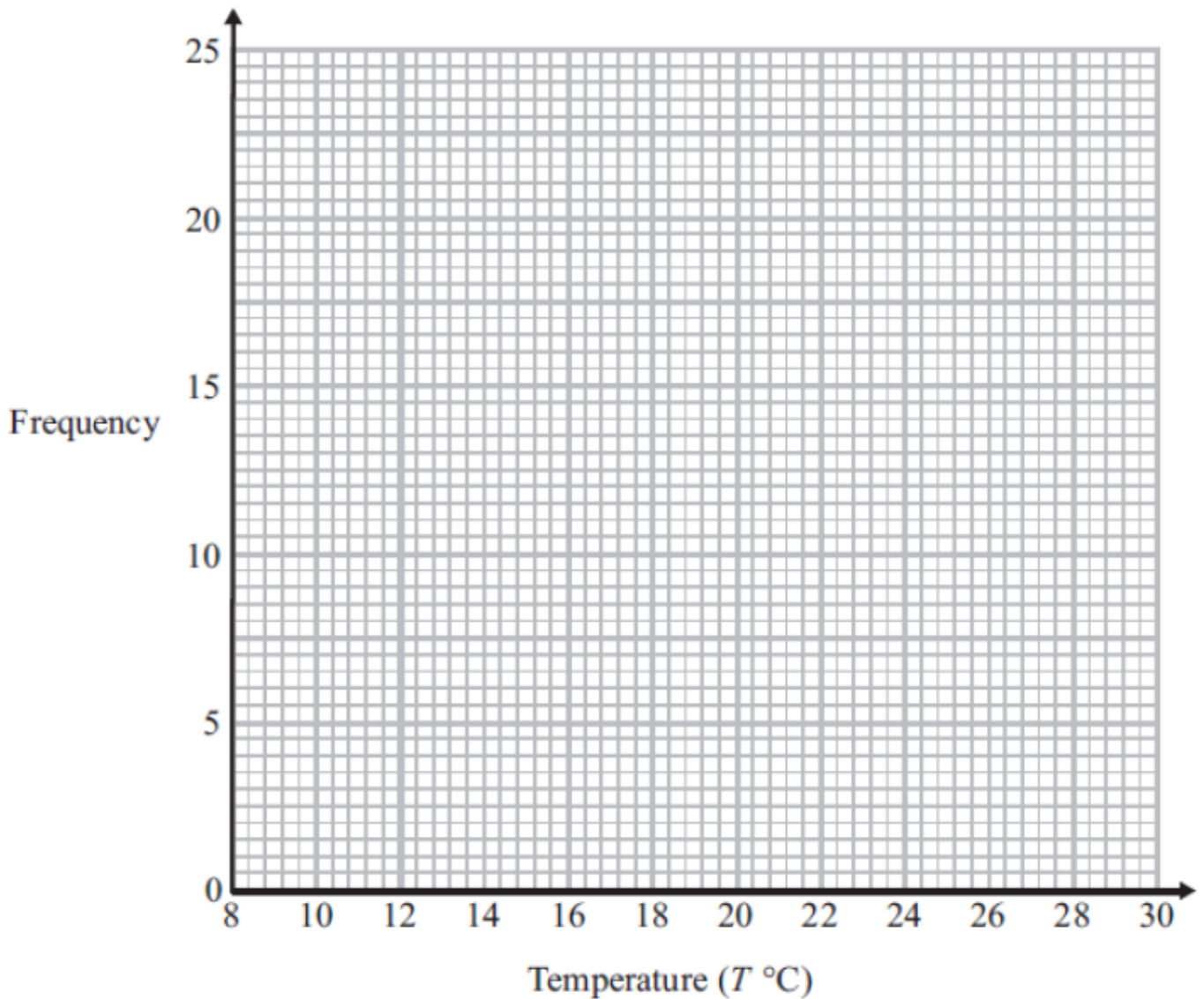**Q24.** The table gives information about the temperature, T °C, at noon in a town for 60 days.

Temperature (T °C)	Frequency
10 - 13	7
14 - 17	9
18 - 21	16
22 - 25	22
26 - 29	6

a) Calculate an estimate for the mean temperature.

.... °C (4)

b) Draw a frequency polygon for the information in the table.

(2)

Q25. Christian and Fize cycle around a cycle track.

Each lap Christian cycles takes him 50 seconds.

Each lap Fize cycles takes him 80 seconds.

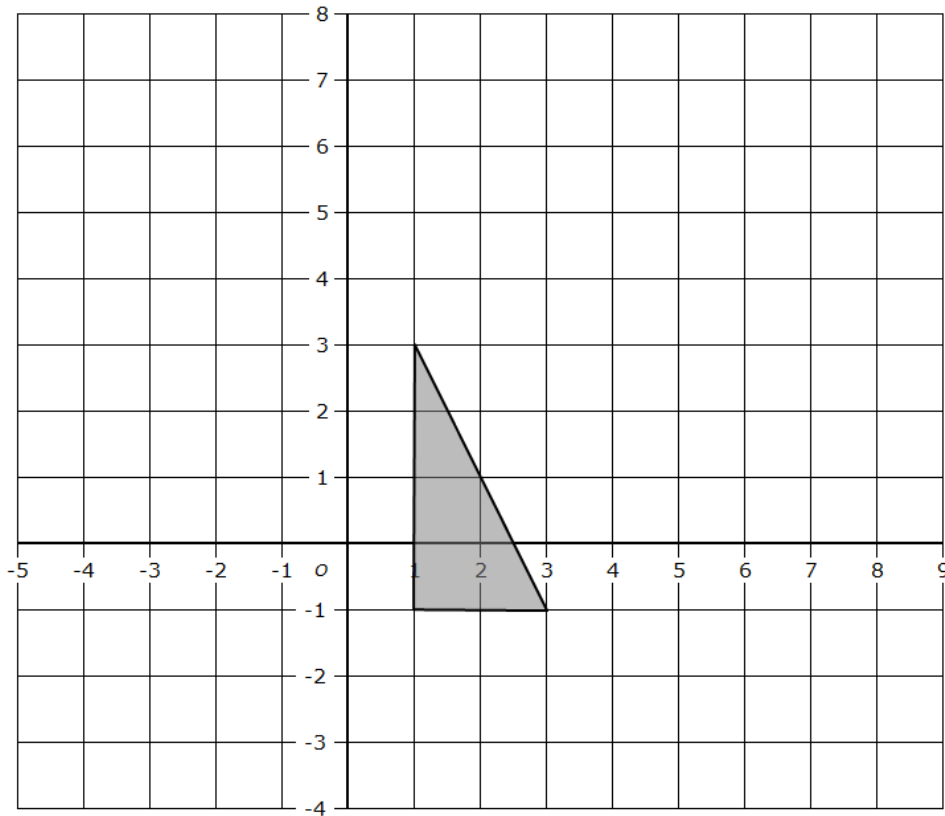Christian and Fize start cycling at the same time at the start line.

Work out how many laps they will each have cycled when they are next at the start line together.
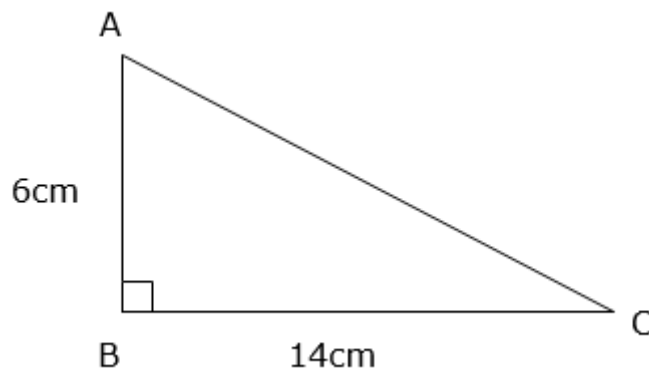
Christian ……… laps

Fize ……… laps

(4)

Q26.

Enlarge the shaded triangle by a scale factor 2 centre *(0,0)*

(2)

Q27.

ABC is a right-angle triangle.

AB = 6cm

BC = 14cm

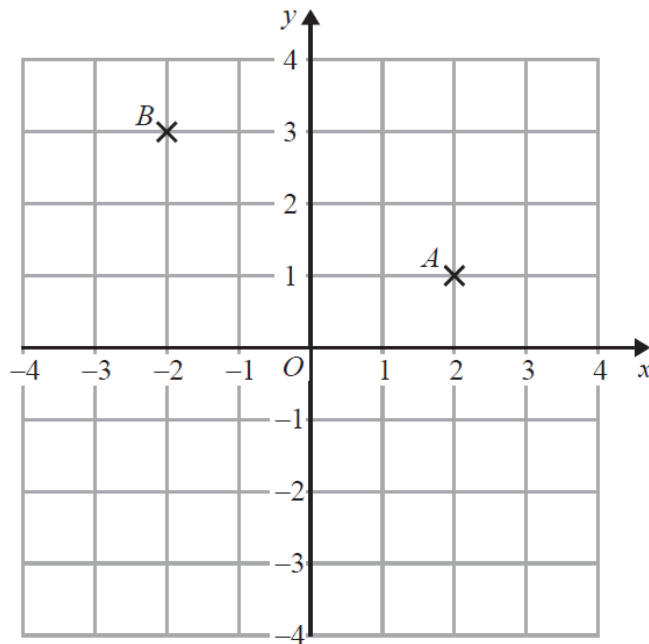(a)   Work out the area of the triangle ABC.

_____ cm² (2)

(b)   Calculate the length of AC.

Give your answer correct to 2 decimal places.

_____ cm

(3)

Q28.

(*a*) Write down the coordinates of the point *A*.

(........................ , ...)   **(1)**

(*b*) Write down the coordinates of the point *B*.

(........................ , ...)   **(1)**

(*c*) On the grid, mark with a cross (×) the point (−3, −2).

Label this point *C*.

(1)

(*d*) On the grid, draw the line *y* = 3

(1)

END OF QUESTIONS