

Test 3

Essential Maths Book 7C Year End

Calculators may be used

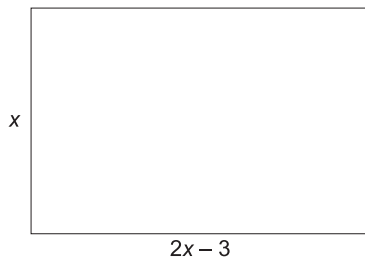
1. Work out these answers on a calculator and then round off the answer to one decimal place

(a) $219.7 \div 7.43$ (1 Mark)

(b) 0.74×3.63^2 (1 Mark)

(c) $\frac{18.4}{8.4 - 1.117}$ (2 Marks)

- 2.



The perimeter of this rectangle is 18 cm.

(a) Write an equation involving x . (2 Marks)

(b) Solve the equation to find x . (1 Mark)

(c) Work out the *area* of the rectangle. (2 Marks)

3. A bag contains 4 white balls, 2 black balls and 3 red balls.

One ball is selected at random.

(a) Find the probability of selecting a black ball. (1 Mark)

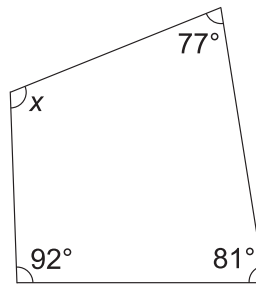
(b) Three more white balls are added to the bag.
What is the new probability of selecting a black ball? (2 Marks)

4. A jar with 8 chocolates in it weighs 246g.

The same jar with 13 chocolates in it weighs 306g.

How much does the jar weigh on its own? (2 Marks)

5. Work out the size of angle x

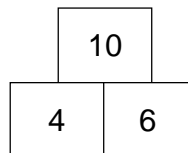


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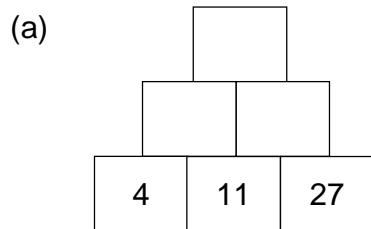
(2 Marks)

6. In this diagram the number in each box is found by adding the numbers in the two boxes underneath.

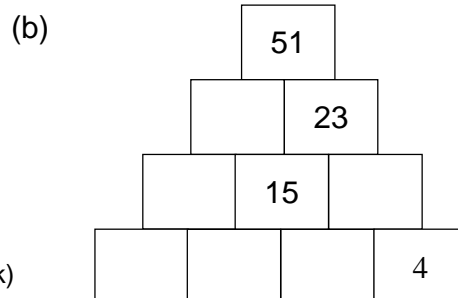
For example:



Copy each diagram and fill in the missing numbers.



(1 Mark)



(2 Marks)

7. There are 11 players in a football team and there are 355 boys in a school.

(a) How many teams of 11 can be formed?

(2 Marks)

(b) How many boys will be left over?

(1 Mark)

8. The eleventh number in the sequence 1, 3, 9, 27 is 59049.

(a) What is the tenth number in the sequence?

(1 Mark)

(b) What is the thirteenth number in the sequence?

(2 Marks)

9. Here are five number cards
-
-
-
-
-

(a) Use the five cards to make the answer to the calculation below as *large as possible*.

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(1 Mark)

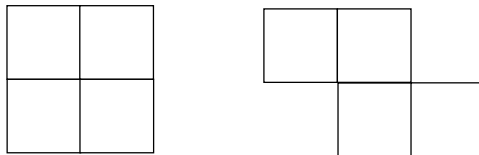
(b) Use the five cards to make the answer to the calculation below the *smallest* possible positive answer

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(2 Marks)

10. (a) Write down the order of rotational symmetry of each shape made from centimetre squares.



(2 Marks)

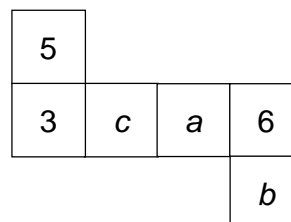
(b) Write down the perimeter of each shape.

(2 Marks)

(c) Draw a new shape of your own design with four squares so that it has *one* line of symmetry but *no* rotational symmetry.

(2 Marks)

11. The diagram is a net which can be folded to make a cubical dice. Opposite faces of the dice add up to 7. What are the numbers on the faces marked *a*, *b* and *c*?



(2 Marks)

12. Copy the following and find the missing numbers.

(a) $3.1\text{kg} = \boxed{}\text{g}$

(b) $17\text{mm} = \boxed{}\text{cm}$

(c) $8\text{cm} = \boxed{}\text{m}$

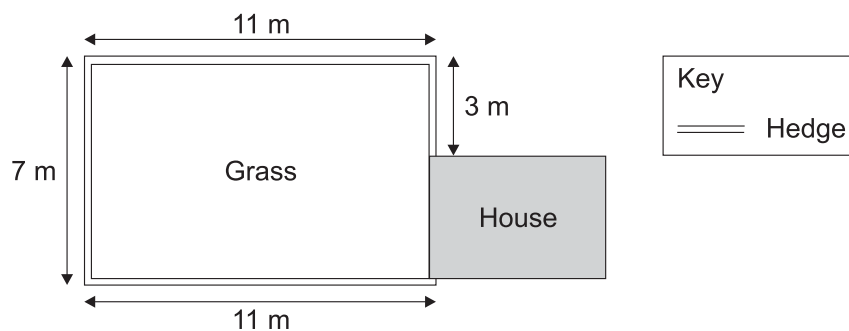
(3 Marks)

13. Kristy puts a whole number into her calculator.
When she divides the number by 99
her calculator shows 1.34343434343

What whole number did Kristy put into her calculator?

(2 Marks)

14. The diagram shows a plan of a house and garden.



The gardener charges 70 pence for cutting each metre of hedge
and 25 pence for each square metre of grass.

How much will it cost for this garden?

(3 Marks)

15. Here are five numbers

11 3 1 13 7

(a) What is the *median* of the numbers?

(1 Mark)

(b) Which number is the *mean* of the other four numbers?

(1 Mark)

16. (a) Draw a rectangle like the one shown.
Draw two straight lines inside the
rectangle so that the rectangle is
divided into 3 triangles.



(1 Mark)

(b) Draw another rectangle like the one shown. Now draw two straight
lines inside it so that the rectangle is divided into 1 quadrilateral
and 2 triangles.

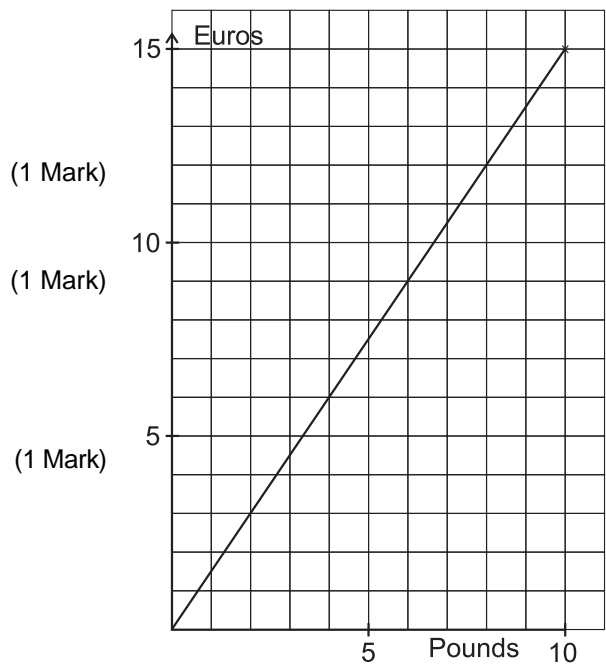
(1 Mark)

(c) Draw a third rectangle like the one shown. Draw straight
lines inside the rectangle so that the rectangle is divided
into 3 quadrilaterals and 1 triangle.

(2 Marks)

17. This graph is used to convert pounds to euros.

- (a) How many euros do you get for £6? (1 Mark)
- (b) How many pounds do you get for 120 euros? (1 Mark)
- (c) A gallon of petrol costs £5 in England or 9 euros in France. In which country is the petrol cheaper? (Show your working) (1 Mark)



18. (a) Draw a sketch of a *pyramid* with a square base. (1 Mark)
- (b) Draw a possible *net* you could use to make the pyramid. (1 Mark)

- 19 Copy and complete these calculations.

(a)

	6	
+	4	
	4	
<div style="display: flex; justify-content: space-around; width: 100%;"> 8 0 1 </div>		

(2 Marks)

(b)

				x 17
<div style="display: flex; justify-content: space-around; width: 100%;"> 4 5 0 5 </div>				

(2 Marks)

20. (a) Find the new price of a fridge costing £124 after a price reduction of 6%. (2 Marks)
- (b) Solve the equation $7 = 13 + 2n$ (1 Mark)