

Test 1

You need: Ruler, Protractor

Essential Maths 8S Unit 1 and 2

Calculator not allowed

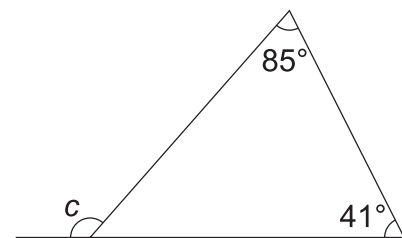
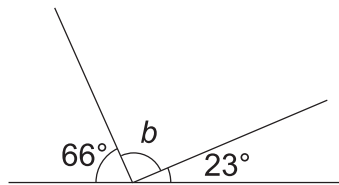
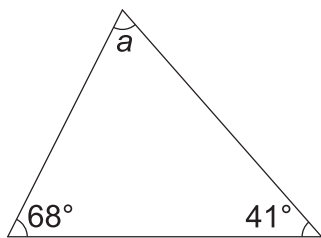
1. Work Out

(a)
$$\begin{array}{r} 574 \\ 28 \\ + 323 \end{array}$$

(b)
$$\begin{array}{r} 16.85 \\ - 4.92 \end{array}$$

(2 Marks)

2. Find the angles marked with letters. Show your working.



(3 Marks)

3. Find the new temperature in each case below

(a) The temperature is $+4^\circ$ and it falls by 7°

(1 Mark)

(b) The temperature is -3° and it falls by 6°

(1 Mark)

4. Work out

(a) $5^2 + 1^2$

(1 Mark)

(b) $\sqrt{16} + \sqrt{100}$

(1 Mark)

(c) $3^3 - 2^3$

(1 Mark)

5. I am thinking of two numbers.

When I *add* the numbers, the answer is 14When I *multiply* the numbers, the answer is 45

What are the two numbers?

(1 Mark)

6. Look at the numbers in the box.

(a) Which are *prime* numbers?

(2 Marks)

(b) Which numbers are factors of 18?

(1 Mark)

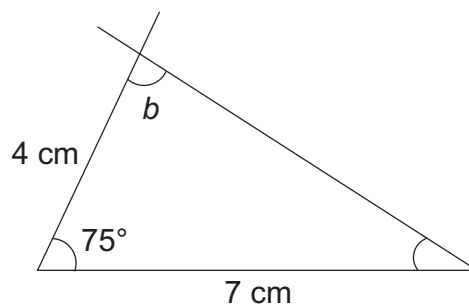
2	7	9
	15	17
		27

7. (a) Use a ruler and protractor to draw this diagram accurately.

(2 Marks)

(b) Measure and write down the size of angle b .

(1 Mark)



8. Work out

(a) $-3 + 10$

(1 Mark)

(b) $-8 - 2$

(1 Mark)

(c) $9 - 5 - 6$

(1 Mark)

9. There are 26 boxes full of books.

Each box contains 17 books.

How many books are there altogether?

(2 Marks)

10. Here are four number cards

2

3

6

8

Use the four number cards to make the answer to the calculation below as **large** as possible.

$$\begin{array}{|c|c|} \hline & \\ \hline \end{array} - \begin{array}{|c|c|} \hline & \\ \hline \end{array}$$

(2 Marks)

11. Copy and complete these equivalent fractions by filling in the box.

(a) $\frac{3}{4} = \frac{\boxed{}}{8}$ (1 Mark)

(b) $\frac{5}{6} = \frac{\boxed{}}{18}$ (1 Mark)

(c) $\frac{\boxed{}}{5} = \frac{40}{100}$ (1 Mark)

12. The expression $3n + 2a + 5n$ can be written in a *more simple* way as $8n + 2a$.

Write these in a more simple way.

(a) $7a + 2b - 2a$ (1 Mark)

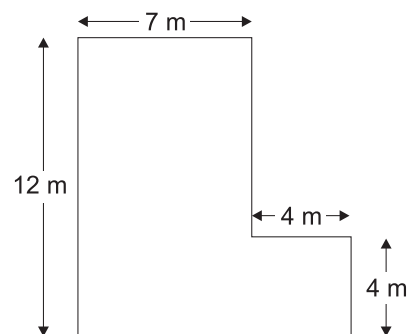
(b) $6a + 8b - 5a - b$ (1 Mark)

13. The diagram shows a garden.

Work out the area of the garden.

Write the units in which your answer is given.

(2 Marks)



14. Work out

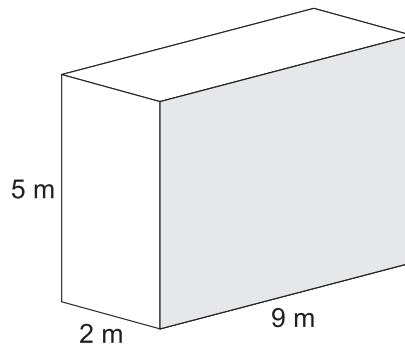
(a) $\frac{1}{7} + \frac{3}{7}$ (1 Mark)

(b) $\frac{3}{16} + \frac{1}{2}$ (1 Mark)

(c) $\frac{3}{5}$ of £30 (1 Mark)

15. (a) Work out the volume of the cuboid shown. (1 Mark)

(b) Work out the area of the shaded face. (1 Mark)



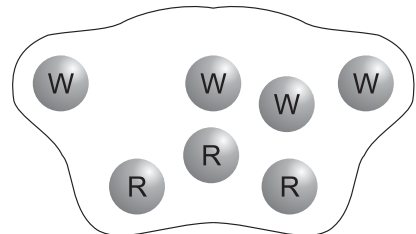
16. A bag contains 4 white balls and 3 red balls.

One ball is selected at random.

(a) What is the probability of selecting a red ball? (1 Mark)

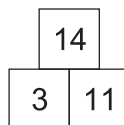
(b) One more white ball is put in the bag.

What is the probability of selecting a white ball now? (1 Mark)

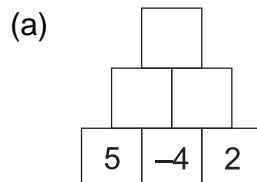


17. In this diagram the number in each box is found by adding the numbers in the two boxes underneath.

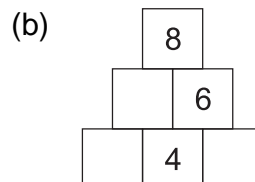
For example:



Copy each diagram and fill in the missing numbers.



(2 marks)



(2 marks)

18. Copy each Statement and write the missing numbers.

(a) $0.3 \text{ km} = \square \text{ m}$

(b) $0.7 \text{ cm} = \square \text{ mm}$

(c) $637 \text{ cm} = \square \text{ m}$

(d) $420\text{g} = \square \text{ kg}$

(4 Marks)

19. In 2008 a litre of petrol cost 90p.

In 2009 the price increased by 10%.

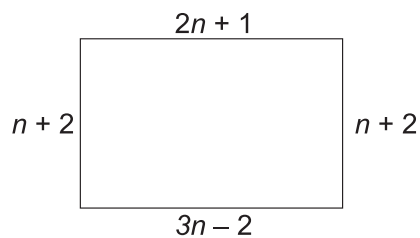
How much did a litre of petrol cost in 2009?

(2 Marks)

20. Find the perimeter of the rectangle shown.

Write your answer using letters and numbers.

(2 Marks)



21. Find the value of each expression when $a = 3$, $b = 5$, $c = 1$

(a) $5a + 3b$

(1 Mark)

(b) $4(a - c)$

(1 Mark)

(c) $a^2 + c^2 - b$

(2 Marks)