1.
Federica is making bracelets.
She needs 6 centimetres of string to make each bracelet.
She has 5.5 metres of string.

(a) What is the maximum number of bracelets Federica can make?

$550 \div 6 = 91.\dot{6}$ 91 bracelets

(2)

(b) How many centimetres of string will she have left over?

$91 \times 6 = 546$ $550 - 546 = 4\,cm$

(1)

2.
Here are three expressions:

ab   3a + b   10b – 3a

Which expression has the largest value when a = 3.5 and b = 2?

$ab = 3.5 \times 2 = 7$
$3a+b = 3 \times 3.5 + 2 = 12.5$
$10b - 3a = 9.5$

3a + b

(2)

3.
Greg and Freddie both cycled to school.
Greg lives 1,900 metres from the school.
Freddie lives 3 kilometres from the school. $= 3000\,m$
Greg travelled at an average speed of 5 metres per second, and Freddie travelled at an average speed of 8 metres per second.
They both left their houses at the same time.

Who arrived at school first?

$Greg = 1900 \div 5 = 380\ seconds$
$Freddie = 3000 \div 8 = 375\ seconds$

Freddie arrived first.

(4)

4.

Rearrange the formula below to make y the subject:

$$x = \frac{y-1}{3}$$

×3   ×3

$$3x = y - 1$$

+1   +1

$$3x + 1 = y$$

(3)

5.

A rugby pitch has an area of 4,645 m².
A football pitch is 109 metres long and 44 metres wide.
How much larger is the area of the football pitch than the rugby pitch?

$$109 \times 44 = 4,796 \, m$$

$$4,796 - 4,645 = 151 \, m^2$$

(3)

6.

Adrian went on holiday to Italy.
The exchange rate was £1 = 1.20 Euros when he left.

Before he went on holiday, he changed £700 into Euros.

(a) How many Euros did Adrian have at the start of his holiday?

$$700 \times 1.20 = 840 \, Euros$$

(2)

Adrian had 368 Euros left at the end of his holiday.
When Adrian returned home, the exchange rate had changed to £1 = 1.15 Euros.
When he got home, he changed the remaining money into pounds.

(b) What was the difference, in pounds, between what he left with and what he returned with?

$$368 \div 1.15 = £320$$

$$700 - 320 = £380$$

(3)