

- 1

(a)

Write the number four hundred and sixty thousand and five in figures.

..... [1]
- (b)

Write 52 149 correct to the nearest hundred.

..... [1]

9 (a) Shade $\frac{3}{4}$ of this grid.

[1]

- (b)

Work out 15% of 80.

..... [2]

22

Chocolate cookies
Makes 12

100 g flour
55 g butter
55 g sugar
20 g cocoa
1 egg

- (a)

Sunita makes 24 chocolate cookies.

Work out how much flour she needs.

..... g [1]
- (b)

Albie has 28 g of cocoa.

Does he have enough cocoa to make 18 cookies?

Explain how you decide.

.....

..... [2]

- 23

(a)

$a^8 \times a^x = a^{15}$

Find the value of x .

$x =$ [1]

(b)

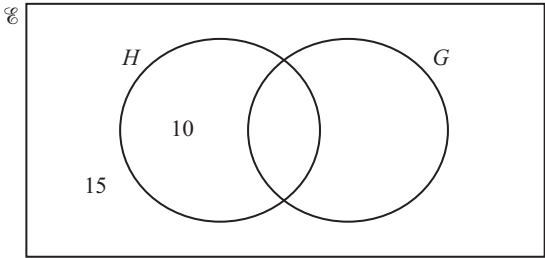
$(b^7)^y = b^{21}$

Find the value of y .

$y =$ [1]

- 24 $\mathcal{E}$ = {students in a year group}
 H = {students who study History}
 G = {students who study Geography}

80 students are in the year group.
40 students study History.



- (a) Complete the Venn diagram. [2]
- (b) Find $n(G)$.
..... [1]
- (c) A student is chosen at random.
Work out the probability that the student does not study History and does not study Geography.
..... [1]

- 25 Expand and simplify.

$(x + 3)(x - 2)$

..... [2]

- 26 Write 1.753×10^8 as an ordinary number.

..... [1]

- 9 The temperature at midday on Monday is -3°C .
The temperature at 10 pm on Monday is -15°C .

- (a) Calculate the difference between these two temperatures.

..... $^{\circ}\text{C}$ [1]

- (b) The temperature at midday on Tuesday is 23°C higher than the temperature at 10 pm on Monday.
Calculate the temperature at midday on Tuesday.

..... $^{\circ}\text{C}$ [1]

- 9 Find the value of

(a) 2^5

..... [1]

(b) 6^0 .

..... [1]

20 The height, h cm, of a door is 180 cm, correct to the nearest centimetre.

Complete this statement about the value of h .

..... $\leq h <$ [2]

21 These are the first four terms of a sequence.

−6 1 8 15

(a) Write down the next term.

..... [1]

(b) Write down the term-to-term rule.

..... [1]

(c) (i) Find the n th term.

..... [2]

(ii) Is 688 a term in this sequence?

Explain how you decide.

..... because

..... [2]

3 Write one of the symbols $<$, $>$ or $=$ in each statement to make it correct.

$\frac{2}{3}$ 0.667

$\frac{1}{8}$ 12.5%

$\frac{7}{8}$ $\frac{71}{80}$

[2]

13 Find the value of 8^5 .

Give your answer correct to 3 significant figures.

..... [2]

14 (a) Ada works from Monday to Friday.
Her working hours each day are 08 00 to 12 30 and 13 30 to 17 00.

Find the number of hours she works in 5 days.

..... hours [2]

(b) Ada is paid \$15.20 per hour.

Work out her pay for these 5 days.

\$ [1]

(c) On Saturday she is paid $1\frac{1}{2}$ times her normal hourly rate.

Work out her hourly rate of pay for Saturday.

\$ [1]

(d) Ada changes 370 euros into dollars.
The exchange rate is \$1 = 0.925 euros.

Work out the amount she receives.

\$ [1]

21 Calculate $(5.6 \times 10^{-3}) \div (2.4 \times 10^{-5})$.

Write your answer in standard form.

..... [2]