GCSE (1 – 9)

Simultaneous Equations

Instructions

• Use black ink or ball-point pen.
• Answer all Questions.
• Answer the Questions in the spaces provided—there may be more space than you need.
• Diagrams are NOT accurately drawn, unless otherwise indicated.
• You must show all your working out.

Information

• The marks for each Question are shown in brackets—use this as a guide as to how much time to spend on each Question.

Advice

• Read each Question carefully before you start to answer it.
• Keep an eye on the time.
• Try to answer every Question.
• Check your answers if you have time at the end.
1. Solve the simultaneous equations

   \[4x + 3y = 18\]
   \[x - 3y = 7\]

   \[x = \ldots\]
   \[y = \ldots\]

   (Total for question 1 is 3 marks)

2. Solve the simultaneous equations

   \[x - 3y = -23\]
   \[5x + 2y = 4\]

   \[x = \ldots\]
   \[y = \ldots\]

   (Total for question 2 is 3 marks)
3  Solve the simultaneous equations

\[2x + 5y = -10\]
\[2x - y = 8\]

\[x = \ldots\]
\[y = \ldots\]

(Total for question 3 is 3 marks)

4  Solve the simultaneous equations

\[4x + 2y = 10\]
\[5x + 3y = 12\]

\[x = \ldots\]
\[y = \ldots\]

(Total for question 4 is 3 marks)
5 Solve the simultaneous equations

\[ \begin{align*} 2x + 5y &= 4 \\
7x - 5y &= -1 \end{align*} \]

\[ x = \ldots \]
\[ y = \ldots \]

(Total for question 5 is 3 marks)

6 Solve the simultaneous equations

\[ \begin{align*} 3x - 2y &= 7 \\
7x + 2y &= 13 \end{align*} \]

(Total for question 6 is 3 marks)
7 Solve the simultaneous equations

\[ 2x - 3y = 4 \]
\[ 4x - y = 13 \]

\[ x = \ldots \] \[ y = \ldots \]

(Total for question 8 is 3 marks)

8 Solve the simultaneous equations

\[ 3x + y = 15 \]
\[ 5x + 2y = 24 \]

(Total for question 8 is 3 marks)
9  Solve the simultaneous equations

\[ 3x - y = -4 \]
\[ 2x - 3y = 9 \]

\[ x = \ldots \]
\[ y = \ldots \]

(Total for question 9 is 3 marks)

10  Solve the simultaneous equations

\[ 6x + 5y = 4.5 \]
\[ 3x - 2y = 9 \]

\[ x = \ldots \]
\[ y = \ldots \]

(Total for question 10 is 3 marks)
Solve the simultaneous equations

\[ \begin{align*}
3x &= 9 + y \\
x + 5y &= 5
\end{align*} \]

\[ x = \ldots \] \hspace{1cm} \[ y = \ldots \]

(Total for question 11 is 3 marks)

Solve the simultaneous equations

\[ \begin{align*}
3y + 11 &= 4x \\
10x + 2y + 1 &= 0
\end{align*} \]

\[ x = \ldots \] \hspace{1cm} \[ y = \ldots \]

(Total for question 12 is 3 marks)
13 In a shop 2 coffees and 3 cakes cost £9.95
In the same shop 1 coffee and 4 cakes cost £10.35.

Work out the price for one coffee and the price for one cake.

Coffee £..............................
Cake £...............................

(Total for question 13 is 3 marks)

14 Sweets are sold in small packs and in big packs.
There is a total of 175 sweets in 4 small packs and 3 big packs.
There is a total of 154 sweets in 5 small packs and 2 big packs.
Work out the number of sweets in each small pack and in each big pack.

Small Pack .............................
Big Pack ...............................

(Total for question 14 is 3 marks)