

GCSE QUESTIONS

Q1. NON-CALCULATOR

(a) Solve $f + 2f + f = 20$

$f = \dots\dots\dots$
(1)

(b) Solve $18 - m = 6$

$m = \dots\dots\dots$
(1)

(c) Simplify $a^2 \times a^3$

$\dots\dots\dots$
(1)

(Total for question is 3 marks)

Q2. NON-CALCULATOR

Solve $\frac{y}{4} = 10.5$

$y = \dots\dots\dots$
(Total for question = 1 mark)

Q3. NON-CALCULATOR

(a) Solve $3x + 7 = 1$

$x = \dots\dots\dots$
(2)

(b) $f = 6$ $g = 5$

Work out the value of $3f - 2g$

$\dots\dots\dots$
(2)

(Total for question = 4 marks)

Q4. NON-CALCULATOR

(a) Solve $4(x - 5) = 18$

$x = \dots\dots\dots$
(2)

$$-3 < t \leq 2$$

t is an integer.

(b) Write down all the possible values of t .

.....

(2)

(Total for question = 4 marks)

Q5. NON-CALCULATOR

(a) Solve $2(x + 1) = 8$

$x =$

(2)

(b) Solve $3y + 7 = 19$

$y =$

(2)

(c) Factorise $6n - 4$

.....

(1)

(d) Simplify $3cd + 2cd - cd$

.....

(1)

(Total for question = 6 marks)

Q6. NON-CALCULATOR

(a) Solve $4c + 5 = 11$

$c =$

(2)

(b) Solve $5(e + 7) = 20$

$e = \dots\dots\dots$

(2)

(c) Simplify $(m^3)^2$

$\dots\dots\dots$

(1)

(Total for question is 5 marks)

Q7. NON-CALCULATOR

Solve $5 = \frac{100}{x}$

$x = \dots\dots\dots$

(Total for question = 1 mark)

Q8. NON-CALCULATOR

(a) Simplify $x + x + x + y + y$

$\dots\dots\dots$

(1)

(b) Simplify $3p + 7q - p - 4q$

$\dots\dots\dots$

(2)

(c) Expand $6(2m - 3)$

$\dots\dots\dots$

(1)

(d) Solve $7f + 6 = 27$

$f = \dots\dots\dots$

(2)

(Total for question = 6 marks)

Q9. NON-CALCULATOR

(a) Expand $2a(a + 7)$

.....
(1)

(b) Factorise $14b - 7$

.....
(1)

(c) Solve $9(c - 6) = 63$

$c =$
(2)

(d) Simplify $3y^2 \times 4y^3$

.....
(1)
(Total for question = 5 marks)

Q10. NON-CALCULATOR

Solve $4x + 3 = 7 - x$

$x =$
(Total for question = 2 marks)

Q11. NON-CALCULATOR

Solve $4x + 5 = x + 26$

$x =$
(Total for question = 2 marks)

Q12. NON-CALCULATOR

(a) Simplify $7x + 2y - 3x + 4y$

.....
(2)

(b) Factorise $10x - 15$

.....
(1)

(c) Solve $5p = 3p + 8$

$p =$
(2)

(Total for question = 5 marks)

Q13. NON-CALCULATOR

(a) Simplify $7 \times e \times f \times 8$

.....
(1)

(b) Solve $\frac{x}{5} = 2\frac{1}{2}$

$x =$
(1)

(Total for question = 2 marks)

Q14. NON-CALCULATOR

(a) Solve $3(2p - 5) = 21$

$p =$
(3)

(b) Solve $9x - 11 = 5x + 7$

$x = \dots\dots\dots$
(3)

(Total for Question is 6 marks)

Q15. NON-CALCULATOR

Solve $5x - 6 = 3(x - 1)$

$x = \dots\dots\dots$

(Total for question = 3 marks)

Q16. NON-CALCULATOR

Steve is asked to solve the equation $5(x + 2) = 47$. Here is his working:

$$\begin{aligned} 5(x + 2) &= 47 \\ 5x + 2 &= 47 \\ 5x &= 45 \\ x &= 9 \end{aligned}$$

Steve's answer is wrong.

(a) What mistake did he make?

.....
.....

(1)

Liz is asked to solve the equation $3x^2 + 8 = 83$. Here is her working.

$$\begin{aligned} 3x^2 + 8 &= 83 \\ 3x^2 &= 75 \\ x^2 &= 25 \\ x &= 5 \end{aligned}$$

(b) Explain what is wrong with Liz's answer.

.....
.....

(1)

(Total for question = 2 marks)

Q17. NON-CALCULATOR

(a) Solve $3x^2 = 147$

$x = \dots\dots\dots$
(2)

(b) Solve $\frac{y-1}{2} + \frac{y+1}{3} = 15$

$y = \dots\dots\dots$
(3)

(Total for question = 5 marks)