Name: ___________________________

GCSE (1 – 9)
Rearranging Harder Formula

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

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1 Make $u$ the subject of the formula $v = u + at$

2 Make $a$ the subject of the formula $v = u + at$
3 Make \( u \) the subject of the formula \( v^2 = u^2 + 2as \)

4 Make \( a \) the subject of the formula \( v^2 = u^2 + 2as \)
5 Make $a$ the subject of the formula $s = ut + \frac{1}{2}at^2$

6 Make $v$ the subject of the formula $T = \frac{1}{2}mv^2$

(Total for question 5 is 2 marks)

(Total for question 6 is 2 marks)
7  Make \( x \) the subject of the formula \( 2x + a = b(x - 2) \)

8  Make \( x \) the subject of the formula \( x(2 + a) = b(x + 3) \)
9 Make $x$ the subject of the formula $a = \frac{x + 4}{x + 2}$

10 Make $x$ the subject of the formula $a = \frac{x + c}{x - b}$
11 Make $x$ the subject of the formula \[ \frac{a}{b} = \frac{2x}{x + 5} \]

(Total for question 11 is 3 marks)

12 Make $x$ the subject of the formula \[ a = \frac{4 + 2bx}{2x - 3} \]

(Total for question 12 is 3 marks)
Make $b$ the subject of the formula $\frac{1}{a} = \frac{1}{b} + \frac{1}{c}$

(Total for question 13 is 4 marks)