

Rearranging Harder Formulae

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **25**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Make t the subject of the formula $y = 4a - \frac{t}{2}$

$t = \dots\dots\dots$
(2)

(Total for Question 1 is 2 marks)

- 2** Make a the subject of $3(a - 2b) = a + 5$

$a = \dots\dots\dots$
(3)

(Total for Question 2 is 3 marks)

- 3** Make x the subject of $y = 2\sqrt{x+5}$

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

(Total for Question 3 is 2 marks)

- 4 Make m the subject of $E = \frac{1}{2}mv^2 + mgh$

$$m = \dots\dots\dots (3)$$

(Total for Question 4 is 3 marks)

- 5 Make x the subject of $\frac{x}{a} + \frac{x}{b} = 1$

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

(Total for Question 5 is 3 marks)

- 6 Make t the subject of the formula $k = \frac{5 - 2t}{t + 3}$

$$t = \dots\dots\dots (4)$$

(Total for Question 6 is 4 marks)

- 7 Oskar is trying to make x the subject of $y = \frac{3x+2}{x}$

His method is shown below.

$$xy = 3x + 2$$

$$xy - 3x = 2$$

$$x(y - 3) = 2$$

$$x = \frac{2}{y} - 3$$

Oskar's answer is wrong.

Explain the mistake Oskar has made.

(1)

(Total for Question 7 is 1 mark)

- 8 Make v the subject of the formula $\frac{v-k}{m} = \frac{v}{3}$

$v = \dots\dots\dots$
(3)

(Total for Question 8 is 3 marks)

9 Make p the subject of the formula $t = \sqrt{\frac{p+5}{2p}}$

$p = \dots\dots\dots$
(4)

(Total for Question 9 is 4 marks)
