GCSE
Rearranging Formulae and Substitution

Worksheets

ZRTutoring

Zack R

1 Instructions

- Use black ink or ball-point pen

- Attempt all questions

- Answer the questions in the spaces provided

- You **must** show all your working

- Diagrams are **NOT** accurately drawn, unless otherwise indicated

- Calculators may not be used

2 Advice

- Read each question carefully before you start to answer it

- Try to answer every question

- Check your answers if you have time at the end

- The marks for each question are shown in brackets, this will give an indication on the time spent

- Record how long it takes you for each question

3 Information

- The marks for each Question are shown at the bottom

- Use the marks as a guide as to how much time to spend and how much working to show

Question 1:*Rearrange the formula to make x the subject:*

$$b = 8x - 21$$

....
(Total for Question 1 is 2 marks)

Question 2:*Rearrange the formula to make p the subject:*

$$8s = \frac{2\,(7p - 5/}{9}$$

....
(Total for Question 2 is 2 marks)

Question 3:*Make j the subject of the formula:*

$$14k = 24 + 3j$$

....
(Total for Question 3 is 1 marks)

Question 4:*Make h the subject of*

$$y^2 = h^3 + 5$$

....
(Total for Question 4 is 2 marks)

Question 5:*Make a the subject of*

$$s = vt - \frac{1}{2}at^2$$

....
(Total for Question 5 is 2 marks)

Question 6:*Make c the subject of*

$$d = \sqrt{\frac{c+8}{7}}$$

....
(Total for Question 6 is 2 marks)

Question 7:*Make x the subject of*

$$y = \frac{4}{9}x + 17$$

....
(Total for Question 7 is 2 marks)

Question 8:*Make t the subject of*

$$2s + 5t + 19 = 2$$

....
(Total for Question 8 is 2 marks)

Question 9:*Make u the subject of*

$$v^8 = u^3 \text{ - } 0.6$$

....
(Total for Question 9 is 2 marks)

Question 10:*Make k the subject of*

$$8a = 3\left(4k * 6/\right.$$

....
(Total for Question 10 is 2 marks)

Question 11:*Make i the subject of the formula*

$$4e = \frac{\sqrt{7i}}{3}$$

....
(Total for Question 11 is 2 marks)

Question 12a:*A rectangle has sides, $5x + 3$ and $3x$ - 2*
P is the perimater of the rectangle.
Show that
$$P = 16x + 2$$

....
(Total for Question $12a$ **is 2 marks)**

Question 12b:*Another rectangle is has a perimeter twice as large as the one described in part a, express x in terms of P for the new rectangle*

....
(Total for Question $12b$ **is 2 marks)**

Question 13: *Rearrange*

$$q = \sqrt[3]{2r \text{ - } 11}$$

to make r the subject

....
(Total for Question 13 **is 2 marks)**

Question 14:*A circle has a perimeter of $4x^2$, find an expression in terms of x for the area of this circle*

....
(Total for Question 14 **is 2 marks)**