Name: SOLUTIONS

GCSE (1 - 9)

Changing the Subject of the Formula

Buy me a coffee

Solutions by
Kenneth Stafford
MATHS TUTOR
ken@kennethstafford.co.uk

These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

Question	Where the question appeared
1	Edexcel, GCSE, Autumn 2018, Paper 1F, Q21
2	Edexcel, GCSE, Autumn 2020, Paper 1F, Q20
3	Edexcel, GCSE, Summer 2017, Paper 3F, Q11
4	Edexcel, GCSE, Summer 2018, Paper 3F, Q28
5	Edexcel, GCSE, Summer 2019, Paper 3F, Q19
6	Edexcel, GCSE, November 2022, Paper 2F, Q21
7	Edexcel, GCSE, Summer 2022, Paper 3F, Q23

Changing the Subject of the Formula (Questions from Edexcel GCSE Past Papers)

1

$v^2 = u^2 + 2as$

$u = 12$ $a = -3$ $s = 18$

$V^2 = u^2 + 2as$

(a) Work out a value of v.

$V^2 = (12)^2 + 2 \times (-3) \times (18)$

$V^2 = (144) + -108$

$V^2 = 36$

$V = \sqrt{36}$

± 6

(2)

(b) Make s the subject of $v^2 = u^2 + 2as$

$V^2 = u^2 + 2as$

$V^2 - u^2 = 2as$

$\frac{V^2 - u^2}{2a} = S$

$S = \frac{V^2 - u^2}{2a}$

(2)

(Total for Question 21 is 4 marks)

[Edexcel, GCSE, Autumn 2018, Paper 1F, Q21]

Changing the Subject of the Formula (Questions from Edexcel GCSE Past Papers)

2

(a) Make q the subject of $p = 6q + 7$

$6q + 7 = p$

$6q = p - 7$

$q = \frac{p-7}{6}$

.....

(2)

(b) Simplify $(m^{-2})^{-3}$

$m^{-3 \times -2} = m^6$

m^6

.....

(1)

(Total for Question 30 is 3 marks)

[Edexcel, GCSE, Autumn 2020, Paper 1F, Q20]

3

$T = 4v + 3$

(a) Work out the value of T when $v = 2$

$T = 4(2) + 3$

$T =$ 11

.....

(2)

(b) Make v the subject of the formula $T = 4v + 3$

$4v + 3 = T$

$4v = T - 3$

$v = \frac{T-3}{4}$

$V = \frac{T-3}{4}$

.....

(2)

(Total for Question 11 is 4 marks)

[Edexcel, GCSE, Summer 2017, Paper 3F, Q11]

4

Make g the subject of the formula $T = \sqrt{\frac{g+6}{2}}$

$\sqrt{\frac{g+6}{2}} = T$

$\frac{g+6}{2} = T^2$

$g+6 = 2T^2$

$g = 2T^2 - 6$

$g = 2T^2 - 6$

(Total for Question 28 is 3 marks)

[Edexcel, GCSE, Summer 2018, Paper 3F, Q28]

5

Make x the subject of the formula $y = 2x + 4$

$2x + 4 = y$

$2x = y - 4$

$x = \frac{y-4}{2}$

(Total for Question 19 is 2 marks)

[Edexcel, GCSE, Summer 2019, Paper 3F, Q19]

6

Make a the subject of the formula $p = 3a - 9$

$3a - 9 = p$

$3a = p + 9$

$a = \frac{p+9}{3}$

(Total for Question 21 is 2 marks)

[Edexcel, GCSE, November 2022, Paper 2F, Q21]

7

(b) Make p the subject of the formula $d = 3p + 4$

$$3p + 4 = d$$
$$3p = d - 4$$
$$p = \frac{d-4}{3}$$

(2)

(Total for Question 23 is 4 marks)

[Edexcel, GCSE, Summer 2022, Paper 3F, Q23]