FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

A5: Rearranging formulae

Change the subject of a formula

20 marks · 25 minutes · Non-calculator

1) Make x the subject of $y = 4x - 9$

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[Question 1: 2 marks]

2) Make r the subject of $A = 3r^2 + k$

.....

[Question 2: 2 marks]

3) Make t the subject of $w = \frac{3t + a}{5}$

.....

[Question 3: 2 marks]

4) Make x the subject of $y = \dfrac{2x + 1}{x - 3}$

.....

[Question 4: 4 marks]

5) Make a the subject of $v^2 = u^2 + 2as$

.....

[Question 5: 2 marks]

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6) Make h the subject of $A = \frac{1}{2}(a + b)h$

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[Question 6: 2 marks]

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7) Make x the subject of $\sqrt{x - 3} = y$

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[Question 7: 2 marks]

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8) Make p the subject of $3p + q = pr + 5$

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[Question 8: 4 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	$x = \frac{y+9}{4}$	$y + 9 = 4x$ (M1); A1.
2	$r = \sqrt{\frac{A-k}{3}}$	$r^2 = \frac{A-k}{3}$ (M1); A1.
3	$t = \frac{5w-a}{3}$	$5w = 3t + a$ (M1); A1.
4	$x = \frac{3y+1}{y-2}$	$y(x-3) = 2x + 1$ (M1); $xy - 2x = 3y + 1$ (M1); $x(y-2) = 3y + 1$ (M1); A1.
5	$a = \frac{v^2-u^2}{2s}$	$v^2 - u^2 = 2as$ (M1); A1.
6	$h = \frac{2A}{a+b}$	$2A = (a+b)h$ (M1); A1.
7	$x = y^2 + 3$	$x - 3 = y^2$ (M1); A1.
8	$p = \frac{5-q}{3-r}$	Collect p terms: $3p - pr = 5 - q$ (M1); factorise: $p(3-r)$ (M1); divide (M1); A1 (accept $\frac{q-5}{r-3}$).