IGCSE · Cambridge (CIE) · Maths

1 hour | 25 questions

Non-Calculator Questions

Rearranging Formulas

Formulas where Subject Appears Once / Formulas where Subject Appears Twice

Easy (4 questions)	/9
Medium (7 questions)	/18
Hard (9 questions)	/32
Very Hard (5 questions)	/19
Total Marks	**/78**

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Easy Questions

1 Make *h* the subject of the formula

$$t = \frac{gh}{10}$$

(2 marks)

2 Make *t* the subject of the formula $w = 3t + 11$

(2 marks)

3 Make *t* the subject of the formula $y = \frac{t}{3} - 2a$

(2 marks)

4 Make *F* the subject of the formula $C = \frac{5(F - 32)}{9}$

(3 marks)

Medium Questions

1 $P = 2r + \pi r$

Rearrange the formula to write r in terms of P and π.

r = ...

(2 marks)

2 $A = \pi rl + \pi r^2$

Rearrange this formula to make l the subject.

l = ...

(2 marks)

3 $A = (2\pi + y)x^2$

Rearrange the formula to make x the subject.

x = ...

(2 marks)

4 Make p the subject of the formula $y = 3p^2 - 4$

(3 marks)

5 $m = \sqrt{\frac{k+1}{4}}$

Make k the subject of the formula.

(3 marks)

6 $m = 2p + \sqrt{\frac{x}{y}}$

Make x the subject of this formula.

$x =$ .....

(3 marks)

7 Make y the subject of the formula $h^2 = x^2 + 2y^2$.

$y =$ .....

(3 marks)

Hard Questions

1 Rearrange this formula to make m the subject.

$$P = \frac{k + m}{m}$$

(4 marks)

2 Make m the subject of the formula.

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

m = ...

(4 marks)

3 Make m the subject of $g - 3m = am + 5$

(3 marks)

4 Make v the subject of the formula $w = \dfrac{15(t-2v)}{v}$

(3 marks)

5 Make a the subject of $a+3 = \dfrac{2a+7}{r}$

(3 marks)

6 Make a the subject of the formula $p = \dfrac{3a+5}{4-a}$

(4 marks)

7 Make t the subject of the formula

$$p = \frac{3-2t}{4+t}$$

(4 marks)

8 Make *m* the subject of the formula $f = \frac{3m+4}{m-1}$

(3 marks)

9 Make g the subject of the formula

$$T = 2\pi\sqrt{\frac{L+h}{g-a}}$$

Leave your answer as a single fraction.

(4 marks)

Very Hard Questions

1 Make t the subject of $n^2 = \dfrac{4d + t^3}{t^3}$

(4 marks)

2 Make c the subject of the formula $p = \sqrt{\dfrac{ac + 8}{3 + c}}$

(4 marks)

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

(4 marks)

4 Given that $n > 0$ make n the subject of the formula $y = \dfrac{n^2 + d}{n^2}$

(4 marks)

5 Rearrange $y = \frac{1}{\sqrt{x+1}}$ to make x the subject.

(3 marks)