



EXAM PAPERS PRACTICE

GCSE Edexcel Math 1MA1 Rearranging Formulae

Answers

*"We will help you to
achieve A Star "*



Answer 1

Make h the subject of the formula

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

GROF:

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

$$\underline{\underline{h = \frac{10t}{g}}}$$



Answer 2

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

$$y = \frac{t}{3} - 2a$$

$+2a$ $+2a$

$$3 \times (y + 2a) = \frac{t}{\cancel{3}} \times \cancel{3}$$

$$\underline{\underline{3(y + 2a) = t}}$$

$$\underline{\underline{t = 3(y + 2a)}}$$



Answer 3

Make g the subject of $3e + 4g = 7 + 9eg$

$$4g - 9eg = 7 - 3e$$

$$g(4 - 9e) = 7 - 3e$$

$$g = \frac{7 - 3e}{4 - 9e}$$

$$g = \frac{7 - 3e}{4 - 9e}$$

.....



Answer 4

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

$$w = 3t + 11$$

-11 -11

$$\frac{w-11}{3} = \frac{3t}{3}$$

$$\frac{w-11}{3} = t$$

$$\underline{t = \frac{w-11}{3}}$$



Answer 5

Make t the subject of the formula $2(d - t) = 4t + 7$

$$\begin{aligned} \text{GROB} \quad 2d - 2t &= 4t + 7 \\ &\quad +2t \quad +2t \\ 2d &= 6t + 7 \\ &\quad -7 \quad -7 \\ \frac{2d - 7}{6} &= \frac{6t}{6} \\ t &= \frac{2d - 7}{6} \end{aligned}$$

(you might get

$$t = \frac{7 - 2d}{-6} \quad \checkmark)$$



Answer 6

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

Make k the subject of the formula.

SQUARE BOTH SIDES

$$4m^2 = \frac{k+1}{4} \times 4$$

GET RID OF FRACTIONS

$$4m^2 = k+1$$

-1 -1

$$\underline{\underline{k = 4m^2 - 1}}$$



Answer 7

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

GROF

$$9 \times C = \frac{5(F-32)}{9} \times 9$$

GROB

$$9C = 5(F-32)$$

LET

$$9C = 5F - 160$$

D

$$\frac{9C + 160}{5} = \frac{5F}{5} \rightarrow$$

GROF GROB LET

FIND ANSWER

$$\begin{array}{l} 10 \times 32 = 320 \\ \div 2 \left. \begin{array}{l} 5 \times 32 = 160 \end{array} \right\} \end{array}$$

$$F = \frac{9C + 160}{5}$$



Answer 8

Make p the subject of the formula

$$y = 3p^2 - 4$$

$+4$ $+4$

$$\frac{y+4}{3} = \frac{3p^2}{3}$$

$$\sqrt{\frac{y+4}{3}} = \sqrt{p^2}$$

$$\sqrt{\frac{y+4}{3}} = p$$



Answer 9

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

GROF GROB LET
FIND ANSWER

GROF: $(4-a) \times p = \frac{3a+5}{4-a} \times (4-a)$

GROB: $p(4-a) = 3a+5$

LET: $4p - pa = 3a + 5$
 $\quad \quad \quad +pa \quad \quad \quad +pa$

$$4p = 3a + pa + 5$$

$\quad \quad \quad -5 \quad \quad \quad -5$

$$4p - 5 = 3a + pa$$

FIN: $\frac{4p-5}{3+p} = \frac{a(3+p)}{3+p}$

D: $\frac{4p-5}{3+p} = a$ ANSWER!



Answer 10

Make y the subject of the formula $p = \sqrt{\frac{x+y}{5}}$

SQUARE BOTH SIDES: $5p^2 = \frac{x+y}{5} \times 5$

$$5p^2 = x + y$$

$$5p^2 - x = y$$

$$\underline{y = 5p^2 - x}$$



Answer 11

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

$$r \times (a + 3) = \frac{2a + 7}{r} \times r$$

GROF: $r(a + 3) = 2a + 7$

GROF GROB LET
FIND ANSWER!

GROB: $ra + 3r = 2a + 7$
 $\quad -2a \quad -2a$

LET: $ra - 2a + 3r = 7$
 $\quad -3r \quad -3r$

$$ra - 2a = 7 - 3r$$

FIN: $\frac{a(r - 2)}{r - 2} = \frac{7 - 3r}{r - 2}$

D:

$$a = \frac{7 - 3r}{r - 2}$$

ANSWER!



Answer 12

Make y the subject of the formula

$$t = \frac{2-3y}{y+2}$$

Cross: $(y+2)t = \frac{2-3y}{y+2} \times (y+2)$

CROSS CROSS LET
FIND ANSWER

Cross: $t(y+2) = 2-3y$

LET: $ty + 2t = 2 - 3y$

$$ty + 3y + 2t = 2$$

$$ty + 3y = 2 - 2t$$

FIN: $y(t+3) = \frac{2-2t}{(t+3)}$

D: $y = \frac{2-2t}{t+3}$

ANSWER:



Answer 13

Make t the subject of the formula

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

4ROF $p(4+t) = 3-2t$

4ROB $4p + pt = 3-2t$
 $\quad \quad \quad +2t \quad \quad \quad +2t$

$$4p + pt + 2t = 3$$

$-4p \quad \quad \quad -4p$

$$pt + 2t = 3 - 4p$$

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

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



Answer 14

Make n the subject of the formula

$$t = \sqrt{\frac{n+3}{n}}$$

Square both sides

$$t^2 = \frac{n+3}{n}$$

Multiply through by n

$$t^2 n = n + 3$$

Take n to one side

$$t^2 n - n = 3$$

Factorise out n

$$n(t^2 - 1) = 3$$

Divide by $(t^2 - 1)$

$$n = \frac{3}{t^2 - 1}$$

$$n = \frac{3}{t^2 - 1}$$



Answer 15

Make x the subject of $y = \sqrt{\frac{2x+1}{x-1}}$

$$y^2 = \frac{2x+1}{x-1}$$

$$y^2(x-1) = 2x+1$$

$$y^2x - y^2 = 2x+1$$

$$y^2x - 2x = y^2+1$$

$$x(y^2-2) = y^2+1$$

$$x = \frac{y^2+1}{y^2-2}$$

$$x = \frac{y^2+1}{y^2-2}$$