Changing the Subject of Formula

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1) June 2010 V1

11 Make d the subject of the formula $c = \dfrac{5d + 4w}{2w}$.

Answer $d =$ [3]

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2) June 2010 V2

10 Make x the subject of the formula.

$$P = \frac{x + 3}{x}$$

Answer $x =$ [4]

3) June 2010 V3

16 Make y the subject of the formula. $A = \frac{r(y + 2)}{5}$

Answer $y =$ [3]

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4) November 2010 V1

12 Make x the subject of $y = \dfrac{(x+3)^2}{5}$.

Answer $x =$ ..... [3]

5) November 2010 V2

3 Rearrange the formula $J = mv - mu$ to make m the subject.

Answer $m =$ [2]

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6) November 2010 V3

13 $a \times 10^7 + b \times 10^6 = c \times 10^6$

Find c in terms of a and b
Give your answer in its simplest form.

Answer $c =$ ..... [2]

7) November 2010 V3

16 $\frac{g}{2} = \sqrt{\frac{h}{i}}$

Find i in terms of g and h.

Answer $i =$ [3]

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8) June 2011 V2

11 Rearrange the formula $c = \frac{4}{a\ \ b}$ to make a the subject.

Answer $a =$ ..... [3]

9) June 2011 V3

2 Make x the subject of the formula. $y = \frac{x}{3} + 5$

Answer $x =$ ..... [2]

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14 $T = 2\pi\sqrt{\frac{\ell}{g}}$

(a) Find T when $g = 9.8$ and $\ell = 2$.

Answer(a) $T =$ ..... [2]

(b) Make g the subject of the formula.

Answer(b) $g =$ ..... [3]

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11) November 2011 V2

18 $w = \dfrac{1}{\sqrt{LC}}$

(a) Find w when $L = 8 \times 10^{3}$ and $C = 2 \times 10^{9}$.
Give your answer in standard form.

Answer(a) $w =$ ..... [3]

(b) Rearrange the formula to make C the subject.

Answer(b) $C =$ ..... [3]

12) November 2011 V3

15 $ap = px + c$

Write p in terms of a, c and x

Answer $p =$ ..... [3]

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13) June 2012 V1

17 Make w the subject of the formula.

$$c = \frac{4 + w}{w + 3}$$

Answer $w =$ ..... [4]

14) June 2012 V3

9 Make w the subject of the formula.

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

Answer $w =$ ..... [3]

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15) November 2012 V1

16 Rearrange the formula $y = \frac{x+2}{x-4}$ to make x the subject.

Answer $x =$ ..... [4]

16) November 2012 V2

3 $m = \frac{1}{4}[3h^2 + 8ah + 3a^2]$

Calculate the exact value of m when $h = 20$ and $a = 5$.

Answer $m =$ ..... [2]

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16 Make y the subject of the formula.

$$A = \pi x^2 - \pi y^2$$

Answer $y =$ ..... [3]

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20 (a)

$$y = \sqrt{8 + \frac{4}{x}}$$

Find y when $x = 2$.
Give your answer correct to 4 decimal places.

Answer(a) $y =$ ..... [2]

(b) Rearrange $y = \sqrt{8 + \frac{4}{x}}$ to make x the subject.

Answer(b) $x =$ ..... [4]

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19) November 2013 V1

10 Make b the subject of the formula.

$$c = \sqrt{a^2 + b^2}$$

Answer $b =$ ..... [3]

20) November 2013 V2

6 Rearrange the formula to make x the subject.

$$y = x^2 + 4$$

Answer $x =$ ..... [2]

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21) June 2014 V1

7 Make x the subject of the formula.

$$y = (x - 4)^2 + 6$$

Answer x = ... [3]

22) June 2014 V2

10 $V = \frac{1}{3}Ah$

(a) Find V when $A = 15$ and $h = 7$.

Answer(a) V = ... [1]

(b) Make h the subject of the formula.

Answer(b) h = ... [2]

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23) November 2014 V2

5 Make r the subject of this formula.

$$v = \sqrt[3]{p + r}$$

Answer r = ... [2]

24) November 2014 V3

8 Make x the subject of the formula.

$$y = 2 + \sqrt{x \quad 8}$$

Answer x = ... [3]

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25) November 2015 V1

13 Make x the subject of the formula.

$$y = ax^2 + b$$

Answer $x =$ ..... [3]

26) November 2015 V3

16 Make a the subject of the formula $s = ut + \frac{1}{2}at^2$.

Answer $a =$ ..... [3]

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27) June 2016 V1

8 $y = \frac{qx}{p}$

Write x in terms of p, q and y.

$x =$ ..... [2]

28) June 2016 V2

10 Make p the subject of the formula.

$$rp + 5 = 3p + 8r$$

$p =$ [3]

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29) November 2016 V1

18 $y = p^2 + qr$

(a) Find y when $p = -5$, $q = 3$ and $r = -7$.

$y =$ ..... [2]

(b) Write p in terms of q, r and y.

$p =$ ..... [2]

30) November 2017 V2

25 Factorise completely.

(a) $x^2 - x - 132$

..... [2]

(b) $x^3 \quad 4x$

..... [2]

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