CHANGING SUBJECT OF A FORMULA LINEAR

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.

$2x + 5 = 13$

> $x = 4$

2.

$4y - 7 = 9$

> $y = 4$

3.

$3a + 2b = 12$, make a the subject

> $a = (12 - 2b)/3$

4.

$5m - 3n = 20$, make m the subject

> $m = (20 + 3n)/5$

5.

$2(p + 3) = 16$

> $p = 5$

6.

$3(q - 4) + 2q = 23$

> $q = 7$

7.

$4x + 3y = 24$, make y the subject

> $y = (24 - 4x)/3$

8.

$2(3r - s) = 18$, make r the subject

> $r = (18 + 2s)/6$

MASTER QUESTIONS

M1.

The formula for the perimeter of a rectangle is $P = 2(l + w)$. Make l the subject.

> $l = P/2 - w$

M2.

The cost C of buying n items at £3 each with a £5 delivery charge is $C = 3n + 5$. Make n the subject.

> $n = (C - 5)/3$

M3.

A taxi charges £2.50 plus £1.80 per mile. The total cost T for m miles is T = 2.5 + 1.8m. Make m the subject.

$m = (T - 2.5)/1.8$

M4.

The area A of a triangle is A = ½bh. Make h the subject.

$h = 2A/b$

M5.

The volume V of a cuboid is V = lwh. Make w the subject.

$w = V/(lh)$

M6.

The speed s of an object is s = d/t where d is distance and t is time. Make t the subject.

$t = d/s$

M7.

The cost C of hiring a car is £25 per day plus 15p per mile. C = 25d + 0.15m where d is days and m is miles. Make d the subject.

$d = (C - 0.15m)/25$

M8.

The temperature in Fahrenheit F = (9/5)C + 32 where C is Celsius. Make C the subject.

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

M9.

The profit P from selling n items at £8 each with costs of £3 per item and £50 overhead is P = 8n - 3n - 50. Make n the subject.

$n = (P + 50)/5$

M10.

The distance s travelled by an object with initial velocity u, acceleration a and time t is $s = ut + ½at^2$. Make u the subject.

$u = (s - ½at^2)/t$