

Rearranging Formulae Mark Scheme

1(a)	$x = \frac{8}{3}$	[1]
1(b)	$x = \frac{2}{5}y$	[1]
1(c)	$x = \frac{5}{2y}$	[1]
1(d)	$x = 5$	[1]
2(a)	$b = n + 2x$	[1]
2(b)	$x = \frac{t^2 - 1}{3}$	[1]
2(c)	$q = 6 - (3p + 4)$ $\therefore q = 2 - 3p$	[1] Add q to both sides
2(d)	$x - 2 = (3a)^2$ $\therefore x = 2 + 9a^2$	[1] Squaring [1] Correct answer
3(a)	$2S = T - 8$ $\therefore S = \frac{T - 8}{2}$	[1] -3, then divide by 2 [1] Correct answer
3(b)	$3 + x = y(2x + 1)$ $y = \frac{3 + x}{2x + 1}$	[1] Multiply by y , then divide by $2x + 1$ [1] Correct answer
4(a)	$m = \frac{2 + x}{x + 3}$	[1]
4(b)	$p(2x + 3) = 1 + 2x$ $p = \frac{1 + 2x}{2x + 3}$	[1] Factorise then divide by $2x + 3$ [1] Correct answer
4(c)	$2mx - 3x = m - 10$ $x(2m - 3) = m - 10$ $x = \frac{m - 10}{2m - 3}$	[1] Subject on same side [1] Factorise and divide [1] Correct answer

Turn over ►

5	$n(m + 3) = m - 4$ $mn + 3n = m - 4$	[1] Multiplying up
	$mn - m = -4 - 3n$	[1] Rearranging for m
	$m(n - 1) = -4 - 3n$	[1] Factorise and divide
	$m = \frac{-4 - 3n}{n - 1}$	[1] Accept $m = \frac{-(3n+4)}{n-1}$ and $m = -\frac{3n+4}{1-n}$
6	$(y + 1)(x + 1) = 2x - 10$	[1] Multiplying up
	$xy + x + y + 1 = 2x - 10$	[1] Expanding and simplifying
	$y + 11 = x - xy$	[1] Subject on same side
	$y + 11 = x(1 - y)$ $x = \frac{y + 11}{(1 - y)}$	[1] Factorise and divide
7	$h = 2r$	[1] Height is twice the radius
	$V = \frac{1}{3}\pi r^2(2r)$ $V = \frac{2}{3}\pi r^3$ $r^3 = \frac{3V}{2\pi}$	[1] Equation linking r and V
	$\therefore r = \sqrt[3]{\frac{3V}{2\pi}}$	[1] Rearranging for r

END