Rearranging When the Subject Appears Twice

1

Make x the subject of

$mx + 1 = 4x + 9$

every x term		everything else
$mx - 4x$	=	

factorise: take x out

$\square = \square$

divide by the bracket

$x =$ _____

2

Make x the subject of

$tx - 6 = 2x + k$

every x term		everything else
	=	

factorise: take x out

$\square = \square$

divide by the bracket

$x =$ _____

3

Make x the subject of

$7x + p = qx + 2$

every x term		everything else
	=	

factorise: take x out

$\square = \square$

divide by the bracket

$x =$ _____

4

Make x the subject of

$ax = 5x + b$

$\square = \square$

$\square = \square$

$x =$ _____

5

Make x the subject of

$gx - 3 = x + h$

$x =$ _____

6

Priya makes x the subject of

$ax + 4 = 3x + b$. She writes

$x = \dfrac{3x + b - 4}{a}$. Explain why she has not finished. Then finish it.

$x =$ _____

7

Make x the subject of

$4(x - k) = nx$

$x =$ _____

8

Make x the subject of

$y = \dfrac{3x - 1}{x + 2}$

$x =$ _____

Rearranging When the Subject Appears Twice *further practice*

9

Make x the subject of

$px + q = rx$

$x =$ _____

10

Make x the subject of

$a(x - 2) = b(x + 1)$

$x =$ _____

11

Make x the subject of

$y = \dfrac{2x}{x + 5}$

$x =$ _____

12

One rectangle is $(x + 3)$ cm long and 2 cm wide. Another is x cm long and k cm wide. They have the same area. Find x in terms of k.

$x =$ _____

13

Make a the subject of $P = \dfrac{a + b}{a - b}$.

$a =$ _____

14

Sam makes x the subject of

$xy = 2x + 7$. He writes $x(y - 2) = 7$, so $x = \dfrac{7}{y} - 2$. What has Sam done wrong? Write the right answer.

$x =$ _____

15

Make x the subject of $\dfrac{x}{3} + \dfrac{x}{k} = 2$.

$x =$ _____

16

Ben makes x the subject of

$mx + 3 = 2x + 11$ and gets $x = \dfrac{8}{m - 2}$. Show that his answer works when $m = 6$.

Answer _____