Changing the subject: the subject appears twice

1

Make x the subject of

$ax + 2x = 7$

$x(a + 2) = 7$

$x =$

2

Make x the subject of

$px + 6x = 5$

$x =$

3

Make x the subject of

$kx - 3x = 11$

$x =$

4

Make x the subject of

$tx + 4x = y$

$x =$

5

Make x the subject of

$ax + 3 = 4x + 10$

$ax - 4x + 3 = 10$

$ax - 4x = 7$

$x =$

6

Make x the subject of

$mx + 1 = 2x + 9$

$mx - 2x + 1 = 9$

$x =$

7

Make x the subject of

$px - 4 = 3x + 2$

$x =$

8

Make x the subject of *Notice the change!*

$kx + 5 = 12 - x$

$x =$

Changing the subject: the subject appears twice *further practice*

9

Make x the subject of

$ax + 7 = 2x + 15$

Answer

10

A group of x adults and x children go to a show. An adult ticket costs £a and a child ticket costs £5. The group pays £60.

Show that $x = \frac{60}{a + 5}$. Find x when $a = 7$.

Answer

11

Make x the subject of

$3x + c = kx$

Answer

12

Make x the subject of

$ax + 4 = bx + 9$

Answer

13

A rectangle is x cm wide and ax cm long. Its perimeter is 24 cm.

Show that $x = \frac{12}{a + 1}$. Find the width when $a = 3$.

Answer

14

A cinema club costs £12 to join, then £m a film. Without the club a film costs £7. n films cost the same both ways, so $12 + mn = 7n$. Make n the subject.

Find n when $m = 4$.

Answer

15

Make x the subject of

$a(x - 3) = 2x + 1$

Answer

16

Ali makes x the subject of $px + 3 = 9 - 2x$ and gets $x = \frac{6}{p - 2}$. Explain Ali's mistake. Write the right answer.

Answer