Interleaved: rearranging formulae

1

Make x the subject of

$p = 3x - 2q$

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

x once: $3x = p + 2q$, then $\div 3$

Answer $x = \frac{p + 2q}{3}$

2

Make x the subject of

$y = 2x^2 + 9$

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

3

Make x the subject of

$3x + k = mx - 4$

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

4

Make x the subject of

$t = \sqrt{\frac{x}{5}} + 2$

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

5

Make x the subject of

$y = \frac{12}{x} - a$

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

6

Make x the subject of

$p = \frac{3x - 1}{x + 2}$

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

7

From h metres above the sea you can see about d km to the horizon, where

$d = 3.6\sqrt{h}$

Make h the subject. How high up do you need to be to see 18 km?

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

8

Two resistors of a ohms and b ohms joined in parallel have a total resistance of R ohms, where

$R = \frac{ab}{a + b}$

Make a the subject.

Which method? Inverse operations | Inverse of a power or root | Collect, then factorise

Answer

Interleaved: rearranging formulae *further practice*

9

The volume of a cone is

$V = \frac{1}{3}\pi r^2 h$

Make r the subject.

Answer

10

Make a the subject of

$s = ut + \frac{1}{2}at^2$

Answer

11

Make x the subject of

$5(x - a) = b(2 - x)$

Answer

12

Make x the subject of

$y = (x - 3)^2 + k$

Answer

13

Make x the subject of

$ax^2 - 5 = c + 2x^2$

Answer

14

Make x the subject of

$\frac{x - 2y}{5} = y + a$

Answer

15

The same number x is added to the numerator and the denominator of $\frac{3}{8}$ to make a new fraction

$p = \frac{3 + x}{8 + x}$

Make x the subject. Find x when $p = \frac{2}{3}$.

Answer

16

Jo makes x the subject of $y = x^2 + 16$. She writes $x = \sqrt{y} - 4$. Explain her mistake and give the right answer.

Answer