

Factorising Quadratics: Harder

1

Factorise $2x^2 + 7x + 3$

the first number times the last
 $2 \times 3 = 6$

multiply to make that, add to make 7
6 and **1**

split the middle term in the grid, then find the headings

x		
	$2x^2$	
		$+3$

Answer _____

2

Factorise $3x^2 + 7x + 2$

the first number times the last
 $3 \times 2 = 6$

multiply to make that, add to make 7
 and

split the middle term in the grid, then find the headings

x		
	$3x^2$	
		$+2$

Answer _____

3

Factorise $2x^2 + 5x + 3$

the first number times the last
 $2 \times 3 =$

multiply to make that, add to make 5
 and

split the middle term in the grid, then find the headings

x		
	$2x^2$	
		$+3$

Answer _____

4

Factorise $5x^2 + 7x + 2$

the first number times the last
 $5 \times 2 =$

multiply to make that, add to make 7
 and

split the middle term in the grid, then find the headings

x		
	$5x^2$	
		$+2$

Answer _____

5

Factorise $2x^2 - 5x - 3$

the first number times the last
 $2 \times -3 =$

multiply to make that, add to make -5
 and

split the middle term in the grid, then find the headings

x		
	$2x^2$	
		-3

Answer _____

6

Factorise $6x^2 - x - 2$

$6 \times -2 =$

and

x		
	$6x^2$	
		-2

Answer _____

7

Factorise fully $6x^2 + 14x + 4$

Answer _____

8

Solve $2x^2 + 5x - 3 = 0$

Answer _____

Factorising Quadratics: Harder *further practice*

9

Factorise $6x^2 - 7x - 3$

Answer _____

10

Factorise $5 + 3x - 2x^2$

Answer _____

11

Given that $(3x + p)(qx + 3) = 6x^2 + 5x - 6$, find p and q .

Answer _____

12

A rectangle has an area of $(6x^2 + 11x + 4)$ cm². Its width is $(2x + 1)$ cm. Find its perimeter.

Answer _____

13

A diver's height above the water h seconds after she leaves the board is $h = 6 + 5t - 6t^2$ metres.

After how many seconds does she reach the water?

Answer _____

14

Factorise $6(x + 1)^2 - (x + 1) - 2$

Answer _____

15

Factorise $6x^2 + 11x + 3$. Use your answer with $x = 10$ to write 713 as the product of two prime numbers.

Answer _____

16

Tom factorises $4x^2 - 10x - 6$ as $(2x + 1)(2x - 6)$. Is his answer fully factorised? Explain.

Answer _____