

Home Maths Algebra Quadratics Factorise 3

## Factorise 3



Consider the equation  $-2s^2 - 5s + 25 = 0$ .

#### Part A Factorise the left hand side

Factorise 
$$-2s^2 - 5s + 25$$
.

The following symbols may be useful: s

#### Part B Find the root closest to zero

Using your result from Part A, give the root of the equation  $-2s^2 - 5s + 25 = 0$  which is closest to zero.

The following symbols may be useful: s

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<u>Home</u> Maths Algebra Quadratics Quadratic Equations 1

# **Quadratic Equations 1**



Solve the equation  $3p^2-6p-4=0$ . What is the solution closest to zero? Please answer to 3.s.f.

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## **Quadratic Equations 5**



Show that the solution to the equation  $mp^2+bp+k=0$  can be written as  $p=-\gamma\pm\sqrt{\gamma^2-\omega^2}$ .

#### Part A Find an expression for $\gamma$

Hence find an expression for  $\gamma$  in terms of one or more of the constants m, b and k in the original equation.

The following symbols may be useful: b, gamma, k, m, omega

#### Part B Find an expression for $\omega$

Also give an expression for  $\omega$  in terms of one or more of the constants m, b and k.

The following symbols may be useful: b,  $\,$  gamma,  $\,$  k,  $\,$  m,  $\,$  omega

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Home Maths Algebra Quadratics Factorise 1

## Factorise 1



Consider the equation  $3b^2 - 2b - 1 = 0$ .

#### Part A Factorise the left hand side

Give the factorised form of the expression on the left hand side of the equation.

The following symbols may be useful: b

#### Part B Find the root closest to zero

Give the exact value of the root closest to zero.

The following symbols may be useful: b

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<u>Home</u> Maths Algebra Quadratics Quadratic Equations 4

# **Quadratic Equations 4**

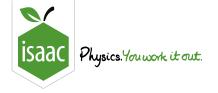


Find the value of  $\boldsymbol{v}$  closest to zero if

$$\frac{3-v}{1-3v} = \frac{2+v}{1+2v}.$$

Please answer to 3.s.f.

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### Factorise 5



Consider the equation  $k+3=\frac{1-k}{k+2}$ .

### Part A Rearrange to give a quadratic equation

Factorise 5

Rearrange the equation to give a quadratic equation in which the right hand side is zero. (As a first step, eliminate the fraction by multiplying through by an appropriate expression.)

The following symbols may be useful:  $\boldsymbol{k}$ 

#### Part B Factorise the quadratic equation

Find the factorised form of the expression on the left hand side of the equation derived in Part A.

The following symbols may be useful:  $\boldsymbol{k}$ 

#### Part C Find the roots

Find the root of the equation furthest from zero.

Find the root of the equation closest to zero.

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