**1.** **[2 marks]**

Solve   $2x^2 = 72$

......................................................

**2.** **[3 marks]**

(a)  Factorise  $x^2 + 4x - 12$

......................................................

**(2)**

(b)  Hence, or otherwise, solve the equation  $x^2 + 4x - 12 = 0$

......................................................

(1)

**3.** **[3 marks]**

Solve $3x^2 + 8x + 2 = 0$

Give your solutions correct to 3 significant figures.
Show your working clearly.

......................................................

**4.** **[4 marks]**

(a) Solve $x^2 - 8x + 15 = 0$

......................................................
**(3)**

(b) Hence, or otherwise, write down the solutions to $(x+2)^2 - 8(x+2) + 15 = 0$

......................................................
**(1)**

**5.**                                                                    **[3 marks]**

Solve $2x^2 + 3x - 7 = 0$

Give your solutions correct to 3 significant figures.
Show your working clearly.

......................................................

**6.**                                                                    **[3 marks]**

Mel is using the quadratic formula to solve a quadratic equation.
She substitutes values into the formula and correctly gets

$$\frac{-5 \pm \sqrt{25 - 12}}{6}$$

Work out the quadratic equation that Mel is solving.
Give your answer in the form $ax^2 + bx + c = 0$, where $a$, $b$ and $c$ are integers.

......................................................

**7.** **[3 marks]**

Solve $x^2 - 7x + 3 = 0$

Give your solutions correct to 3 significant figures.

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**8.** **[3 marks]**

(a) Factorise $3x^2 + 7x - 6$

.......................................................

**(2)**

(b) Hence, or otherwise, solve the equation $3x^2 + 7x - 6 = 0$

.......................................................

(1)

Solve $x^2 + 5x = 12$

Give your solutions correct to 3 significant figures.

...............................................................

Solve $(2x - 5)^2 = 49$

Solve $x^2 + 5x = 12$

Give your solutions correct to 3 significant figures.

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**11.** **[3 marks]**

A ball is thrown vertically upwards from a point $P$.

The height above $P$ of the ball $t$ seconds after it was thrown is $h$ metres, where $h = 11t - 5t^2$

Work out the values of $t$ when the height of the ball above $P$ is 5 metres.
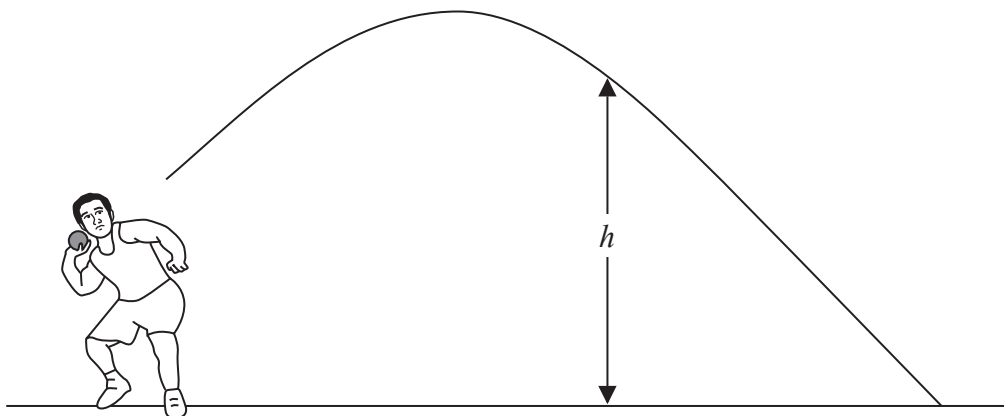
Show your working clearly.

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**12.** **[4 marks]**

Solve $2x^2 - 8 = 3x + 5$

Give your answers correct to 3 significant figures.

.........................................................

**13.** [4 marks]



Ivan is a shot putter.
The formula $h = 2 + 6t - 5t^2$ gives the height, $h$ metres, of the shot above the ground
$t$ seconds after he has released the shot.

(i) Solve $\quad 2 + 6t - 5t^2 = 0$
Give your solutions correct to 3 significant figures.
Show your working clearly.

.......................................................

The shot hits the ground after $T$ seconds.

(ii) Write down the value of $T$.
Give your answer correct to 3 significant figures.

$T = $ ........................

**14.** **[3 marks]**

Solve $3x^2 - x - 1 = 0$

Give your solutions correct to 2 decimal places.

..........................................................

**15.** **[4 marks]**

Solve $(x-3)^2 = x+5$

Give your answers correct to 3 significant figures.

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