

**Higher Targets 3**

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| **Q** | **Question** | **Answer** |
| **1** | Solve and list the whole number solutions to$$5\leq 3x+2<19$$ |  |
| **2** | Green paint is made by mixing yellow paint and blue paint in the ratio 7 : 3Hannah has 28 litres of yellow paint and 7.5 litres of blue paint. What is the maximum amount of green paint she can make? |  |
| **3** | $$\left(ax^{b}\right)^{3}=27x^{15}$$Where a and b are positive integers. Work out a and b. |  |
| **4** | In a class of 29 students the mean height of the 14 boys is 1.65 metres.The mean height of the 15 girls is 1.58 metres. Work out the mean height of the whole class. |  |
| **5** | The value of a new car is £27 000 The value of the car decreases by 25% in the first year 13% in each of the next 6 years. Work out the value of the car after 7 years. |  |
| **6** | Work out an expression for the nth term of the quadratic sequence5, 12, 25, 44, 69 |  |
| **7** | Solve$$10\left(x-3\right)+\left(3x+2\right)\left(x-2\right)=65$$ |  |
| **8** | Find the turning point of$$y=x^{2}+7x+4$$ |  |