	Area of Shapes Mark Scheme	
1	<u>Rectangle ABCD</u> Area $= 5 \times 7 = 35$ cm^2 <u>Rectangle CEFG</u> Area $= 6 \times 9 = 54$ cm^2	[1] For both areas of each rectangle
	<u>Triangle DCG</u> Area $= \dfrac{1}{2} \times 5 \times 9 = 22.5$ cm^2	[1] Correct area
	Total area $= 35 + 54 + 22.5 = 111.5$ cm^2	[1] Final answer
2	$45 \times 15 = 675$ cm^2 $\dfrac{1}{2} \times (45 + 10) \times 70 = 1925$ cm^2 $15 \times 10 = 150$ cm^2 Total area $= 675 + 1925 + 150 = 2750$ cm^2	[1] Correct area of storeroom
	Total area required $= 14 \times 200 = 2800$ cm^2	[1] Correct area of 14 items
	There is not enough space in the storeroom.	[1] Must have working from previous 2 marks.
3	Shape A $= \pi r^2 = 9\pi = 28.27$ cm^2 Shape B $=$ base $\times$ height $= 27$ cm^2 Shape C $= \dfrac{\text{top+bottom}}{2} \times$ height $= 27$ cm^2 Shape D $= 23$ cm^2	[1] Correctly identifying 3 out of 4 areas
	B & C are have the same area	[1] Identifying the correct shapes
4	Total area $=$ base $\times$ height $= 50 \times 30 = 1500$ m^2 Flower bed area $= \dfrac{15 + 5}{2} \times 30 = 300$ m^2	[1] Total area and flower bed calculated
	Pond area $= \dfrac{1}{2} \times \pi r^2 = 50\pi$ Pond area $= \dfrac{1}{2} \times \pi r^2 = 50\pi$	[1] Area of ponds
	Grass area $= 1500 - 300 - 50\pi - 50\pi$ $= 885.84$ m^2 (2 dp)	[1] Final calculation and answer to 2 dp.

5	area of triangles together $= 2 \times x = 2x$	[1] Correct answer for area
	area $= x \times x = x^2$ $x^2 = 2x$ $x^2 - 2x = 0$ $x(x-2) = 0$ $x = 0$ or $x = 2$	[1] Area of Parallelogram
	$x = 2$	[1]Value of x
6	$18 \div 3 = 6$	[1] Length of one side calculated
	$x = \sqrt{6^2 - 3^2} = 3\sqrt{3}$ Area $= \dfrac{1}{2} \times 3\sqrt{3} \times 6 = 9\sqrt{3}$ cm^2	[1] use Pythagoras to find the height of the triangle.
	Area $= 6 \times 9\sqrt{3} = 54\sqrt{3}$ cm^2 Answer $= 93.53$ (2 d.p.)	[1] Total area calculated
7	$x = \sqrt{4^2 - 2^2} = 2\sqrt{3}$	[1] Cutting a triangle in half it has a base of length 2 and hypotenuse of length 4.
	Area $= \dfrac{1}{2} \times 2\sqrt{3} \times 4 = 4\sqrt{3}$	[1] Area of one triangle
	area $= 2 \times 4\sqrt{3} = 8\sqrt{3}$	[1] Area of both triangles

END