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| **Solving Harder Quadratic Equations in Context** | |
| **(a)** | **(b)** |
| The shape shown has an area of . All lengths on the diagram are in cm.  (i) Show that  (ii) Hence, find the value of and the dimensions of the shape. | The cylinder shown has a total surface area of . All lengths on the diagram are in centimetres.  (i) Show that  (ii) Hence, find the value of and the height of the cylinder. |
| **(c)** | **(d)** |
| The trapezium shown has an area of . All lengths on the diagram are in centimetres.  (i) Show that  (ii) Hence, find the value of and the dimensions of the trapezium. | A right-angled triangle has sides of lengths and as shown.  (i) Show that  (ii) Hence find the value of and the length of the hypotenuse. |