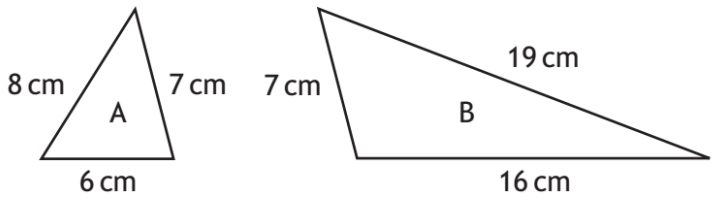
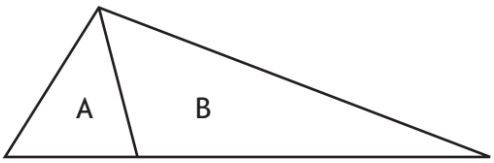
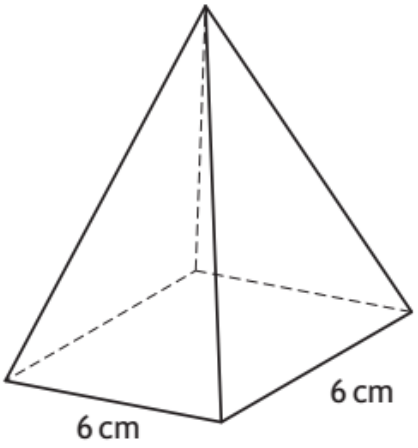
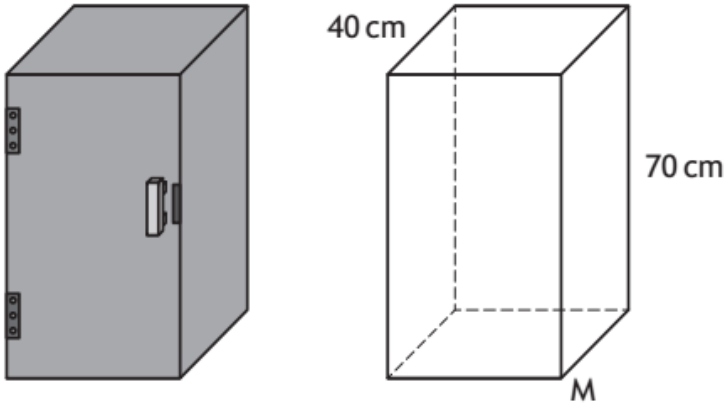
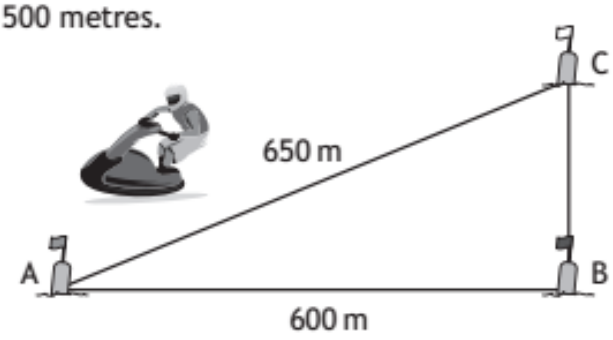
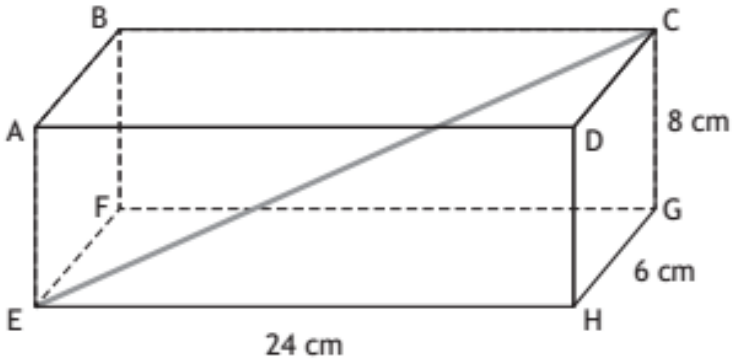
Converse of Pythagoras

YEAR	PAPER	QUESTION
2014	2	The diagram below shows the position of three towns. Lowtown is due west of Midtown. The distance from • Lowtown to Midtown is 75 kilometres. • Midtown to Hightown is 110 kilometres. • Hightown to Lowtown is 85 kilometres. Is Hightown directly north of Lowtown? **Justify your answer.** **4**
2017	2	Triangles A and B are shown below.  The triangles are placed together to form the larger triangle shown below.  Is this larger triangle right-angled? **3** **Justify your answer.**

2018	1	A square based pyramid is shown in the diagram below.  The square base has length 6 centimetres. The volume is 138 cubic centimetres. Calculate the height of the pyramid. **3**
2018	2	Chris wants to store his umbrella in a locker. The locker is a cuboid with internal dimensions of length 40 centimetres, breadth 40 centimetres and height 70 centimetres.  The umbrella is 85 centimetres long. He thinks it will fit into the locker from corner P to corner M. Is he correct? **Justify your answer.** **4**

2019	2	The diagram shows the course for a jet-ski race. The course is indicated by markers A, B and C. The total length of the course is 1500 metres. • B is 600 metres from A • C is 650 metres from A • C is due north of B  Determine whether B is due east of A. **Justify your answer.** **4**
2022	2	The diagram shows a cuboid, ABCDEFGH.  • The length of the cuboid, EH, is 24 centimetres. • The breadth of the cuboid, HG, is 6 centimetres. • The height of the cuboid, CG, is 8 centimetres. Calculate the length of EC, the space diagonal of the cuboid. **3**