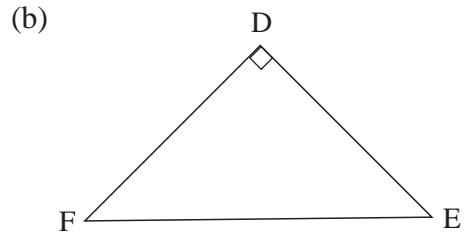
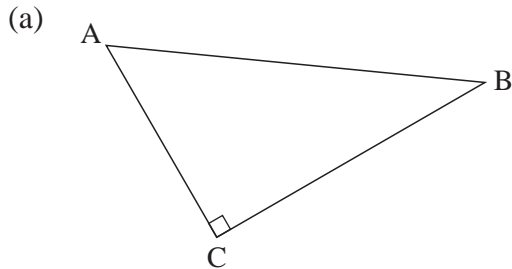


UNIT 3 *Pythagoras' Theorem*

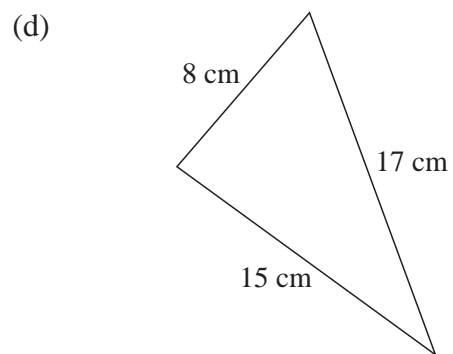
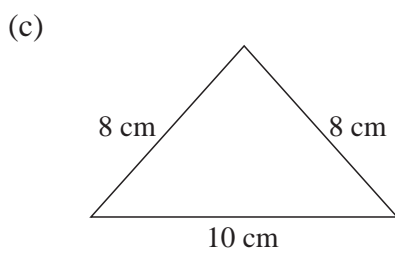
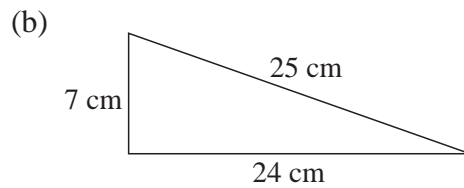
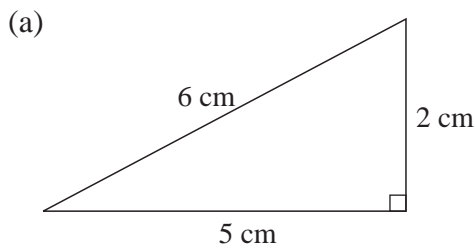
Extra Exercises 3.1

1. Which side is the hypotenuse in each of the right-angled triangles below?



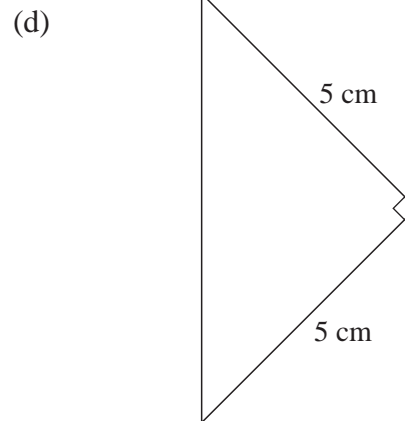
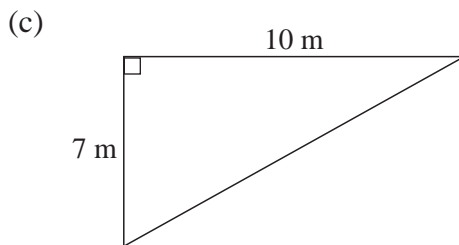
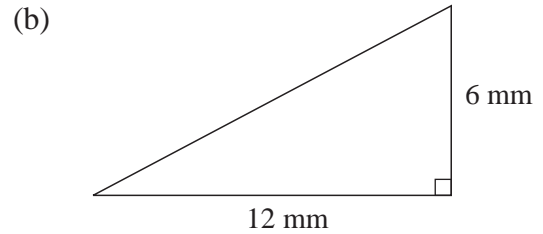
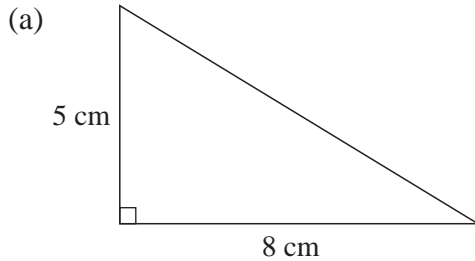
2. (a) Draw a triangle with sides of lengths 3.5 cm, 12 cm and 12.5 cm.
 (b) Check that this triangle contains a right angle.
 (c) Check that Pythagoras' Theorem holds for this triangle.

3. Decide whether each of the following triangles contains a right angle:

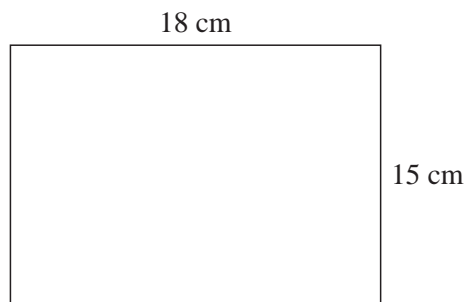


UNIT 3 *Pythagoras' Theorem***Extra Exercises 3.2**

1. Calculate the length of the hypotenuse of each of the following triangles, giving your answers correct to 1 decimal place:

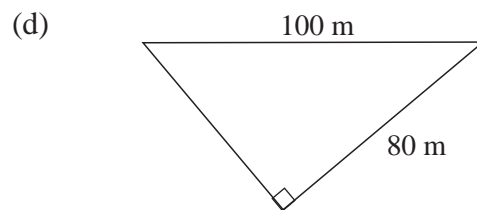
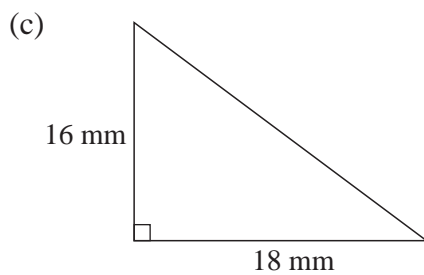
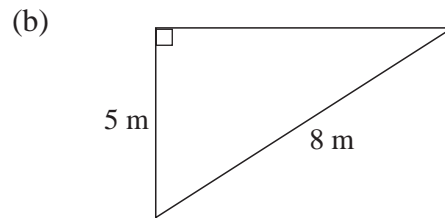
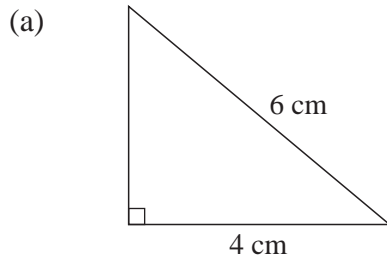


2. Determine the length of the diagonal of a square with sides of length 20 cm.
3. Determine the length of the diagonal of the following rectangle:

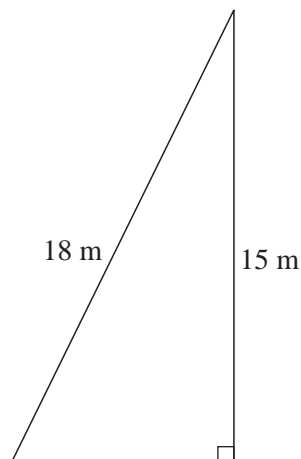


UNIT 3 *Pythagoras' Theorem***Extra Exercises 3.3**

1. Calculate the length of the unknown side in each of the following triangles:



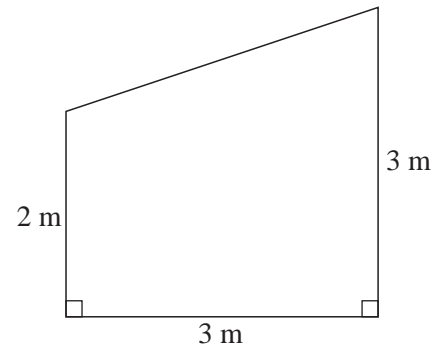
2. An isosceles triangle has two sides of length 10 cm and one side of length 4 cm. Calculate the perpendicular height of the triangle.
3. Calculate the perimeter of the following triangle, giving your answer correct to 1 decimal place:



UNIT 3 *Pythagoras' Theorem***Extra Exercises 3.4**

1. A gardener marks out a new lawn that is supposed to be a rectangle with sides of lengths 8 m and 12 m. He checks that he has marked out a rectangle by measuring the diagonal. How long should the diagonal be, correct to 1 decimal place?

2. The diagram shows the side view of a shed. What is the length of the sloping roof of the shed, correct to 1 decimal place?



3. A boat sails due east for 20 km and it then sails north for 5 km. How far in km is the boat from its starting position, correct to 1 decimal place?
4. A ladder leans against a vertical wall. The length of the ladder is 6 m. The bottom of the ladder is 2 m from the base of the wall. How high is the top of the ladder above the ground, correct to 1 decimal place?
5. A rope, of length 12 m, is tied to the top of a flagpole. The height of the flagpole is 8 m. How far will the end of the rope be from the base of the flagpole, if it is pulled tight, correct to 1 decimal place?

Extra Exercises 3.1 Answers

1. (a) A B (b) E F
3. (a) No (b) Yes (c) No (d) Yes

Extra Exercises 3.2 Answers

1. (a) 9.4 cm (b) 13.4 mm (c) 12.2 m (d) 7.1 cm
2. 28.3 cm
3. 23.4 cm

Extra Exercises 3.3 Answers

1. (a) 4.5 cm (b) 6.2 m (c) 24.1 mm (d) 60 m
2. 9.8 cm
3. 42.9 m

Extra Exercises 3.4 Answers

1. 14.4 m
2. 3.2 m
3. 20.6 km
4. 5.7 m
5. 8.9 m