

Practical Pythagoras' Theorem

(a) A model football pitch is 2m long and 0.5m wide. How long is the diagonal?

(b) A 12m long ladder leans against a wall. The foot of the ladder is 2.5m from the foot of the wall. How far up the wall does the ladder reach?

(c) A triangle has sides 7cm, 24 cm and 26 cm. Is the triangle right-angled?

(d) Find the length of the line that joins the coordinate points (13, 6) and (1, 1).

(e) A boat sails 40km east then turns and sails 50km south. How far is the boat from its original position?

(f) A ladder, 15m long, leans against a wall. If it needs to reach 12 m up the wall, how far from the foot of the wall must the ladder be placed?

(g) A piece of land is in the shape of an isosceles triangle with sides 6.5m, 6.5m and 7.4m. Find the area of the piece of land.

(h) A 10m mast on a boat is supported by a wire called a stay. The stay is 11m long. How far from the base of the mast does the stay reach?

(i) A rectangle is 4cm long. The length of the diagonal is 5cm. What is the area of the rectangle?

(j) Calculate the area of an equilateral triangle with side length 10mm.

(k) Calculate the area of a regular hexagon with side length 8 cm.

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