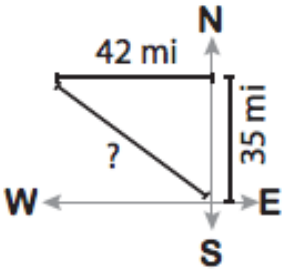
Name: Date:

Pythagorean Theorem - Word Problems

B1.1: Solve the word problems. Round the answer to the nearest tenth.

1) Mark is on his way home from work. He drives 35 miles due North and then 42 miles due West. Find the shortest distance he can cover to reach home early.

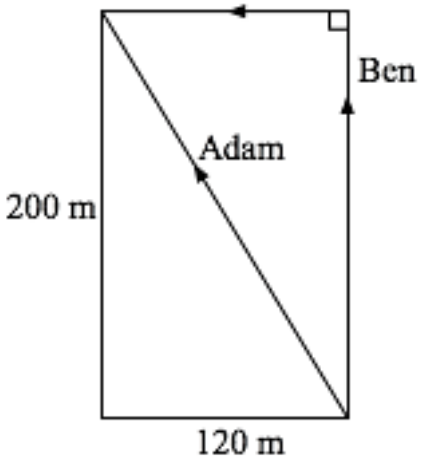


2) Adam runs diagonally across a school field, while Ben runs around the edge.

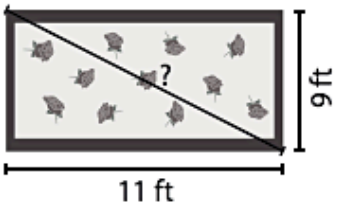
(a) How far does Ben run?

(b) How far does Adam run?

(c) How much further does Ben run than Adam?



3) Rachel bought a rug for her apartment. The rug is 11 feet long and 9 feet wide. Find the diagonal length of the rug.

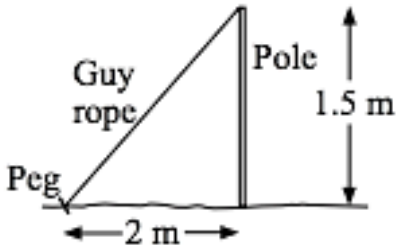


Name: Date:

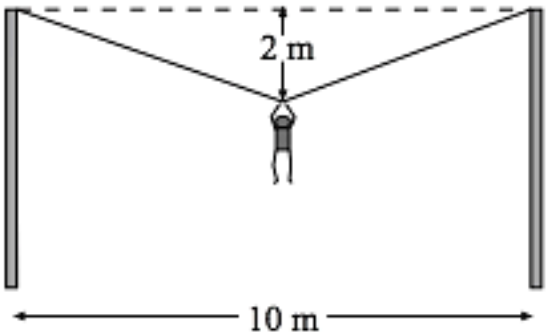
Pythagorean Theorem - Word Problems

B1.2: Solve the word problems. Round the answer to the nearest tenth.

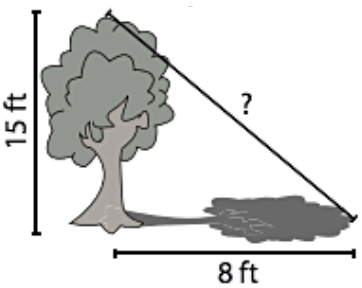
1) A guy rope is attached to the top of a tent pole, at a height of 1.5 metres above the ground, and to a tent peg 2 metres from the base of the pole. How long is the guy rope?



2) A rope is fixed between two trees that are 10 metres apart. When a child hangs on to the centre of the rope, it sags so that the centre is 2 metres below the level of the ends. Find the length of the rope.



3) A 15 feet tree casts a shadow that is 8 feet long. What is the distance from the tip of the tree to the tip of its shadow?



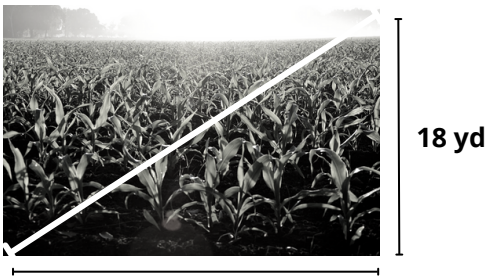
Name: Date:

Pythagorean Theorem - Word Problems

B1.3: Solve the word problems. Round the answer to 2 decimal places.

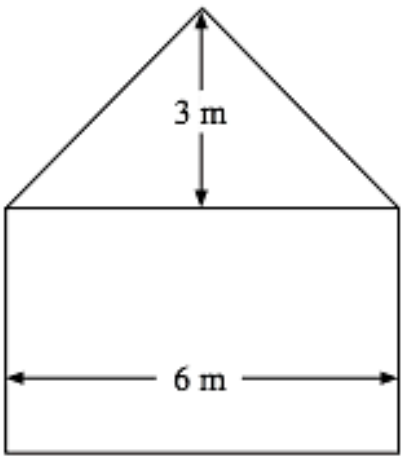
1) Farida is 1.4 metres tall. At a certain time her shadow is 2 metres long. What is the distance from the top of her head to the top of her shadow?

2) Mr. Richard owns an orchard that has a rectangular fence. The orchard is 36 yards long and 18 yards wide. If he walks across the diagonal length of the orchard, how much distance would he cover?



3) A rope of length 10 metres is stretched from the top of a pole 3 metres high until it reaches ground level. How far is the end of the line from the base of the pole?

4) The roof on a house that is 6 metres wide peaks at a height of 3 metres above the top of the walls. Find the length of the sloping side of the roof.



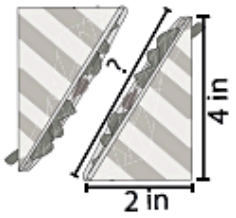
Name: Date:

Pythagorean Theorem - Word Problems

B1.4: Solve the word problems. Round the answer to the nearest tenth.

1) A rope is 10 m long. One end is tied to the top of a flagpole. The height of the flagpole is 5 m. The rope is pulled tight with the other end on the ground.
How far is the end of the rope from the base of the flagpole? Give your answer to a sensible level of accuracy.

2) Joey made a sandwich that was 2 inches long and 4 inches high. If he cuts the sandwich in half as shown in the figure, what would be the diagonal length of the sandwich?



3) Miles walks 3 km east and then 10 km north.

(a) How far is he from his starting point?

(b) He then walks east until he is 20 km from his starting point. How much further east has he walked?

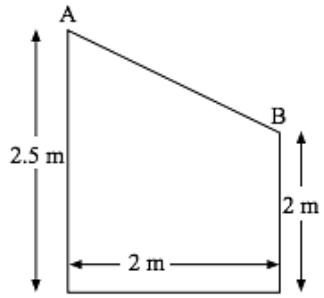
4) Ali is building a shed. It should be rectangular with sides of length 3 metres and 6 metres. He measures the diagonal of the base of the shed before he starts to put up the walls. How long should the diagonal be?

Name: Date:

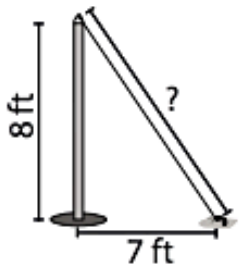
Pythagoras Theorem

B1.5: Solve the word problems. Round the answer to the nearest tenth.

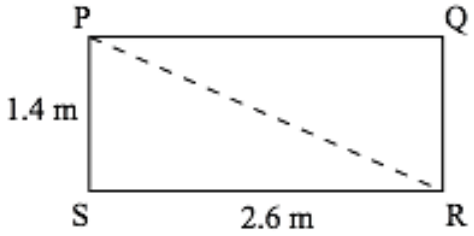
1) The picture shows a garden shed. Find the length, AB, of the roof.



2) Carol pitches a tent at a Girl Scout camp. She ties a rope from the tip of the pole to the peg nailed into the ground, as shown. The pole is 8 feet high and the distance between the base of the pole and the peg is 7 feet. Determine the length of the rope.



3) Pauline is building a greenhouse. The base PQRS of the greenhouse should be a rectangle measuring 2.6 metres by 1.4 metres.



To check the base is rectangular Pauline has to measure the diagonal PR.

(a) Calculate the length of PR when the base is rectangular. You *must* show all your working.

(b) When building the greenhouse Pauline finds angle PSR > 90°. She measures PR. Which of the following statements is *true*?

X: PR is greater than it should be.

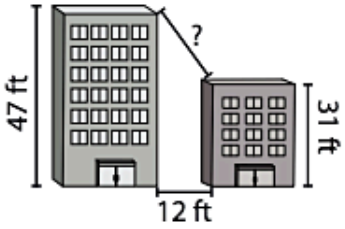
Y: PR is less than it should be.

Z: PR is the right length.

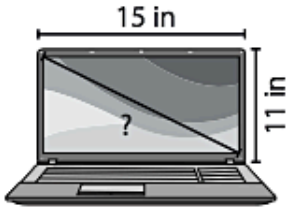
Name: Date:

Pythagoras Theorem

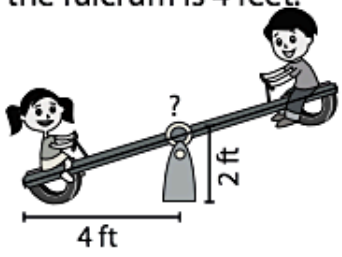
1) There are two buildings beside each other that are 47 feet and 31 feet high. The buildings are 12 feet apart. What is the distance between the rooftops of the buildings?



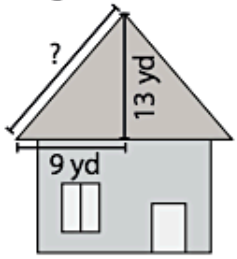
2) Joshua won a laptop in a school raffle. The laptop screen measures 15 inches in length and 11 inches in width. Find the diagonal length of the laptop screen.



3) Ross and Monica are playing on a seesaw. Monica's seat is grounded. The height of the fulcrum is 2 feet. The distance from grounded end of the seesaw to the fulcrum is 4 feet. What is the length of the seesaw?



4) The roof rafter of a house has been raised to a height of 13 yards at the ridge. Half the length of the run measures 9 yards. Find the length of the rafter.

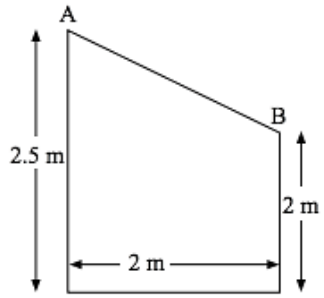


Name: Date:

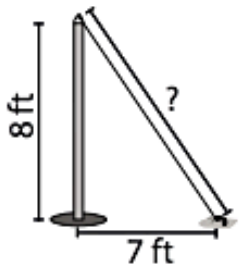
Pythagoras Theorem

B1.6: Solve the word problems. Round the answer to the nearest tenth.

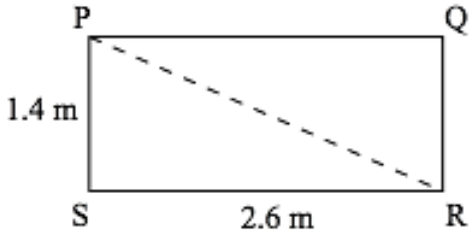
1) The picture shows a garden shed. Find the length, AB, of the roof.



2) Carol pitches a tent at a Girl Scout camp. She ties a rope from the tip of the pole to the peg nailed into the ground, as shown. The pole is 8 feet high and the distance between the base of the pole and the peg is 7 feet. Determine the length of the rope.



3) Pauline is building a greenhouse. The base PQRS of the greenhouse should be a rectangle measuring 2.6 metres by 1.4 metres.



To check the base is rectangular Pauline has to measure the diagonal PR.

(a) Calculate the length of PR when the base is rectangular. You *must* show all your working.

(b) When building the greenhouse Pauline finds angle PSR > 90°. She measures PR. Which of the following statements is *true*?

X: PR is greater than it should be.

Y: PR is less than it should be.

Z: PR is the right length.

Answers

Pythagorean Theorem - Word Problems

B1.1: Solve the word problems. Round the answer to the nearest tenth.
(1) 54.7 miles (2) (a) 320 m (b) 233.2 m (c) 86.8 m (3) 14.2 ft
B1.2: Solve the word problems. Round the answer to the nearest tenth.
(1) 2.5 m (2) 10.77 m (3) 17 ft
B1.3: Solve the word problems. Round the answer to 2 decimal places.
(1) 2.44 m (2) 40.25 yd (3) 9.54 m (4) 4.24 m

Answers

Pythagorean Theorem - Word Problems

B1.4: Solve the word problems. Round the answer to the nearest tenth.
(1) 8.66 m (2) 4.47 in (3) (a) 10.44 km (b) 14.32 km (4) 6.71 m
B1.5: Solve the word problems. Round the answer to the nearest tenth.
(1) 2.06 m (2) 10.63 ft (3) (a) 295 m (b) X
B1.6: Solve the word problems. Round the answer to 2 decimal places.
(1) 20 ft (2) 18.6 in (3) 9 ft (4) 15.8 yd