

The Pythagorean Theorem: math test solutions, Grade 8 – download the PDF

Test solutions with the detailed point scale. Add up your points and spot what to review.

Suggested time: 45 minutes. Out of 20 points. Calculator allowed only when the problem says so.

1 Missing sides

/ 4 pts

- a. $c^2 = 225 + 400 = 625$, so $c = 25$ cm. (1.5 pts)
- b. $a^2 = 37^2 - 12^2 = 1369 - 144 = 1225$, so $a = 35$ m. (1.5 pts)
- c. $c^2 = 16 + 81 = 97$, so $c = \sqrt{97} \approx 9.85$ in. (1 pt)

2 The converse

/ 3 pts

- a. Longest side 34. $16^2 + 30^2 = 256 + 900 = 1156 = 34^2$. It is a right triangle. (1.5 pts)
- b. Longest side 17. $11^2 + 13^2 = 121 + 169 = 290$, but $17^2 = 289$. The values differ, so it is not a right triangle. (1.5 pts)

3 Points in the plane

/ 4 pts

- a. The legs are $10 - (-2) = 12$ and $8 - (-1) = 9$. $PQ = \sqrt{144 + 81} = \sqrt{225} = 15$. (2 pts)
- b. PR is horizontal (same y) and RQ is vertical (same x), so the angle at R is 90° (1 pt).
 $PR = 12$, $RQ = 9$, $PQ = 15$, so the perimeter is $12 + 9 + 15 = 36$ units. (1 pt)

4 A ladder and a window

/ 4 pts

- a. $d^2 = 25^2 - 24^2 = 625 - 576 = 49$, so $d = 7$ ft. (2 pts)
- b. $h^2 = 25^2 - 15^2 = 625 - 225 = 400$, so $h = 20$ ft. The ladder reaches 20 ft. (2 pts)

5 A storage crate

/ 3 pts

- a. $\sqrt{81 + 144} = \sqrt{225} = 15$ in. (1 pt)
- b. $d = \sqrt{15^2 + 20^2} = \sqrt{225 + 400} = \sqrt{625} = 25$ in. (2 pts)

6 True or false?

/ 2 pts

The longest side is 2 cm. $1.2^2 + 1.6^2 = 1.44 + 2.56 = 4$ (1 pt) and $2^2 = 4$. The statement is **true** by the converse of the Pythagorean theorem. (1 pt)



Test yourself: quick challenge for Grade 8

Change level

Level : Grade 8

6 random questions, instant feedback.

 **Start the challenge**

 Keep exploring with Zyro

 Math tests

The Pythagorean Theorem: math test,
Grade 8

 Math lessons

The Pythagorean Theorem: math lesson,
Grade 8

 Math quizzes

The Pythagorean Theorem: math quiz,
Grade 8

 Math tests

Volume of Cylinders, Cones and Spheres:
math test, Grade 8



Math tests

Scatter Plots and Two-Way Tables: math test, Grade 8



Math lessons

Volume of Cylinders, Cones and Spheres: math lesson, Grade 8

Zyro vous emmène sur nos sites partenaires

Embarquez pour d'autres planètes du savoir et leurs applis.

Décollage