

Name: _____ Period: _____ Date: _____

Pythagorean Theorem Bell Work

Identify whether the following triangle side lengths form a right triangle or not. Show Work!

1. 9,12,15

2. 2,5,6

3. 4,3,7

4. $1,1,\sqrt{2}$

Find the Hypotenuse side of the following right triangles.

5. $a = 2, b = 1$

6. $a = 3, b = 6$

7. $a = 3, b = 9$

8. $a = 6, b = 9$

Find the missing sides of the following right triangle given their hypotenuse and one other side.

9. $a = 2, c = 5$

10. $c = 4, b = 1$

Pythagorean Theorem Bell Work

Answers:

Identify whether the following triangle side lengths form a right triangle or not. Show Work!

1. 9,12,15

$$9^2 + 12^2 = 15^2$$

$$81 + 144 = 225$$

$$225 = 225$$

Right triangle

2. 2,5,6

$$2^2 + 5^2 = 6^2$$

$$4 + 25 = 36$$

$$30 \neq 36$$

Not a right triangle

3. 4,3,7

$$4^2 + 3^2 = 7^2$$

$$16 + 9 = 49$$

$$25 \neq 49$$

Not a right triangle

4. 1,1, $\sqrt{2}$

$$1^2 + 1^2 = (\sqrt{2})^2$$

$$1 + 1 = 2$$

$$2 = 2$$

Right triangle

Find the Hypotenuse side of the following right triangle.

5. a: 2, b:1

$$c = \sqrt{a^2 + b^2}$$

$$c = \sqrt{2^2 + 1^2}$$

$$c = \sqrt{4 + 1}$$

$$c = \sqrt{5}$$

6. a:3, b: 6

$$c = \sqrt{a^2 + b^2}$$

$$c = \sqrt{3^2 + 6^2}$$

$$c = \sqrt{9 + 36}$$

$$c = \sqrt{45}$$

7. a: 3, b:9

$$c = \sqrt{a^2 + b^2}$$

$$c = \sqrt{3^2 + 9^2}$$

$$c = \sqrt{9 + 81}$$

$$c = \sqrt{90} \text{ or } 3\sqrt{10}$$

8. a:6, b: 9

$$c = \sqrt{a^2 + b^2}$$

$$c = \sqrt{6^2 + 9^2}$$

$$c = \sqrt{36 + 81}$$

$$c = \sqrt{117}$$

Find the missing sides of the following right triangle given their hypotenuse and one other side.

9. $a = 2, c = 5$

$$b = \sqrt{c^2 - a^2}$$

$$b = \sqrt{5^2 - 2^2}$$

$$b = \sqrt{25 - 4}$$

$$b = \sqrt{21}$$

10. $c = 4, b = 1$

$$a = \sqrt{c^2 - b^2}$$

$$a = \sqrt{4^2 - 1^2}$$

$$a = \sqrt{16 - 1}$$

$$a = \sqrt{15}$$