Jmath.net

NAME _____

DATE _____

PYTHAGORAS: Worksheet 3

Find the missing sides to the nearest tenth. a and b are legs. c is the hypotenuse.

1) $a = 12$ $b = 16$ $c = ?$
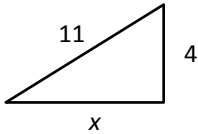
2) $a = 12$ $b = ?$ $c = 18$

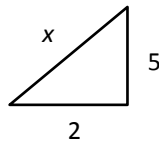3) $a = 1$ $b = 5$ $c = ?$

4) $a = ?$ $b = 3$ $c = 7$

Find the missing side (x) in each right triangle to the nearest tenth. Triangles are not to scale.
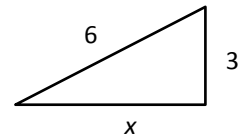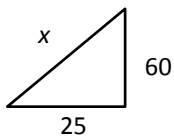
5)

11
4
x

6)

x
5
2

7)

6
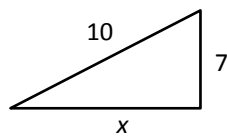3
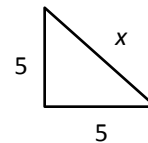x

8)

x
60
25

9)

10
7
x

10)

5
x
5

KEY
PYTHAGORAS: Worksheet 3

Find the missing sides to the nearest tenth.   *a* and *b* are legs. *c* is the hypotenuse.

1) $a = 12$ $b = 16$ $c = ?$

$$12^2 + 16^2 = c^2$$
$$144 + 256 = c^2$$
$$400 = c^2$$
$$\sqrt{400} = c$$
$$c = 20$$

2) $a = 12$ $b = ?$ $c = 18$

$$12^2 + b^2 = 18^2$$
$$144 + b^2 = 324$$
$$b^2 = 324 - 144$$
$$b^2 = 180$$
$$b = \sqrt{180}$$
$$b = 13.4$$

3) $a = 1$ $b = 5$ $c = ?$

$$1^2 + 5^2 = c^2$$
$$1 + 25 = c^2$$
$$26 = c^2$$
$$\sqrt{26} = c$$
$$c = 5.1$$

4) $a = ?$ $b = 3$ $c = 7$

$$a^2 + 3^2 = 7^2$$
$$a^2 + 9 = 49$$
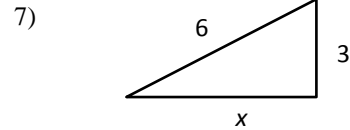$$a^2 = 49 - 9$$
$$a^2 = 40$$
$$a = \sqrt{40}$$
$$a = 6.3$$

Find the missing side (*x*) in each right triangle to the nearest tenth. Triangles are not to scale.

5)
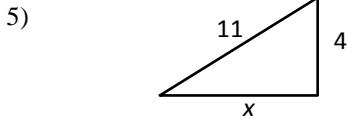
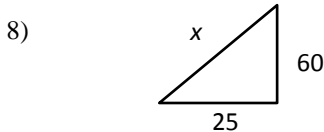$$x^2 + 4^2 = 11^2$$
$$x^2 + 16 = 121$$
$$x^2 = 121 - 16$$
$$x^2 = 105$$
$$x = \sqrt{105}$$
$$x = 10.2$$

6)
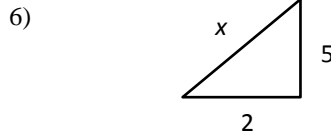
$$2^2 + 5^2 = x^2$$
$$4 + 25 = x^2$$
$$29 = x^2$$
$$\sqrt{29} = x$$
$$x = 5.4$$

7)

$$x^2 + 3^2 = 6^2$$
$$x^2 + 9 = 36$$
$$x^2 = 36 - 9$$
$$x^2 = 27$$
$$x = \sqrt{27}$$
$$x = 5.2$$

8)

$$25^2 + 60^2 = x^2$$
$$625 + 3600 = x^2$$
$$4225 = x^2$$
$$\sqrt{4225} = x$$
$$x = 65$$

9)
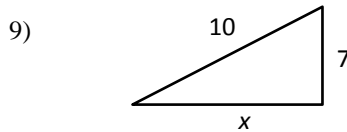
$$x^2 + 7^2 = 10^2$$
$$x^2 + 49 = 100$$
$$x^2 = 100 - 49$$
$$x^2 = 51$$
$$x = \sqrt{51}$$
$$x = 7.1$$

10)
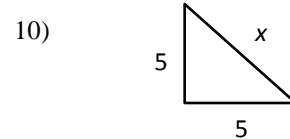
$$5^2 + 5^2 = x^2$$
$$25 + 25 = x^2$$
$$50 = x^2$$
$$\sqrt{50} = x$$
$$x = 7.1$$