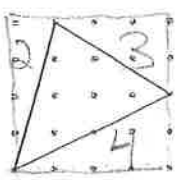


Name: Answer Key Class: _____ Date: _____

Pythagoras Test Review

Show ALL Work!!

1. Find the area of the polygon. Show all work you do.



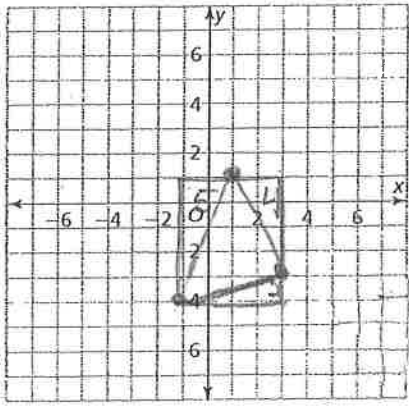
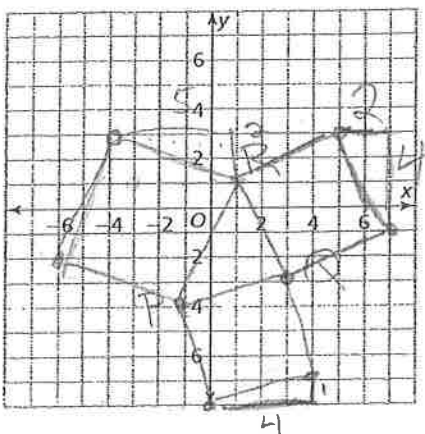
$4 \times 4 = 16 - 9 = 7 \text{ units}^2$

2. a. On one of the grids below, identify the point named by each coordinate pair. Connect points P, Q, and R to make a closed figure. (There are two grids in case you need a clean one for one of the parts below.)

P(-1, -4)

Q(3, -3)

R(1, 1)



b. Find the lengths of the sides of figure PQR by using areas of squares that match each leg. Show all your work.

$PQ^2 = 1^2 + 4^2 = 17$ $PQ = \sqrt{17}$

c. What is the area of figure PQR?

$QR^2 = 2^2 + 4^2 = 20$ $QR = \sqrt{20} = 2\sqrt{5}$

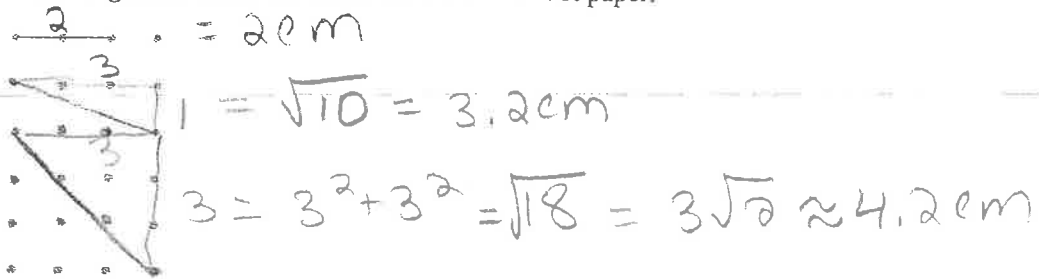
$PQ^2 = 5^2 + 0^2 = 25$ $PQ = \sqrt{25} = 5$

$4 \times 5 = 20$

$20 - 11 = 9 \text{ units}^2$

Name: _____

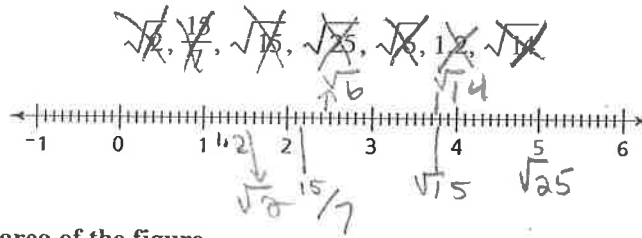
3. The three line segments below are drawn on centimeter dot paper.



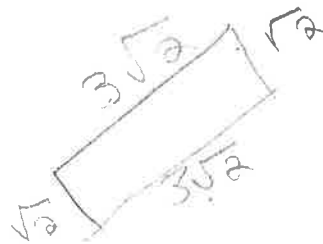
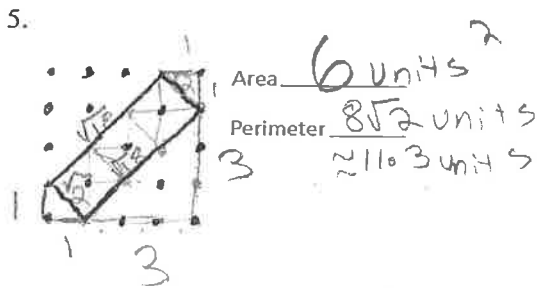
- a. Find the length of each segment to the nearest ten-thousandth of a centimeter. *Write in simplified radical form also.*
 b. Find the slopes of all the line segments on the grid. Remember slope is the rise over the run.

$1/3$ and $3/3 = 1$

4. Arrange the following numbers on a number line.



Find the perimeter and area of the figure.



$$\begin{array}{r} 3\sqrt{2} \\ 3\sqrt{2} \\ + 1\sqrt{2} \\ + 1\sqrt{2} \\ \hline 8\sqrt{2} \end{array}$$

$$\begin{aligned} 3^2 + 3^2 &= c^2 \\ 18 &= c^2 \\ \sqrt{18} = c &= \sqrt{9 \cdot 2} = 3\sqrt{2} \\ 1^2 + 1^2 &= c^2 \\ 2 &= c^2 \\ \sqrt{2} &= c \end{aligned}$$

Name: _____

17. For each number sentence below, decide if it is true (T) or false (F):

a. $7 = \sqrt{49}$

T

b. $7 = -\sqrt{49}$

F

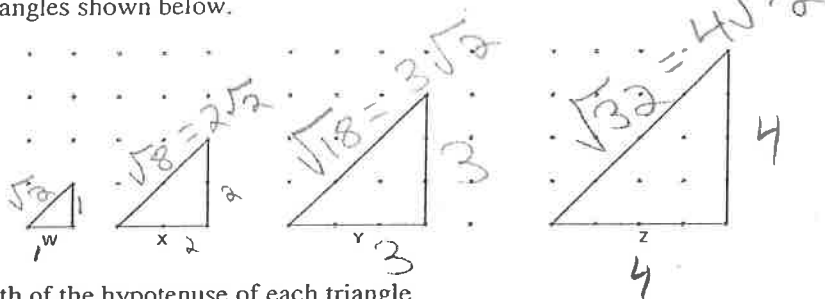
c. $-7 = \sqrt{49}$

T

d. $-7 = -\sqrt{49}$

T

18. Consider the right triangles shown below.



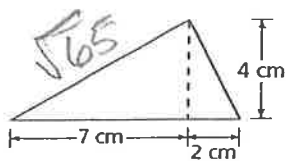
a. Find the length of the hypotenuse of each triangle.

b. How are the hypotenuse lengths in figures X, Y, and Z related to the hypotenuse length in figure W?

They are twice, 3 times, and 4 times longer.

Find the perimeter of the figure to the nearest tenth of a centimeter.

19.



$$4^2 + x^2 = 9^2$$

$$16 + x^2 = 81$$

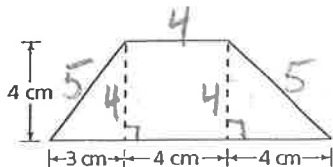
$$x^2 = 65$$

$$x = \sqrt{65}$$

$P = 21.1 \text{ cm}$

$4 + 9 + \sqrt{65}$

20.

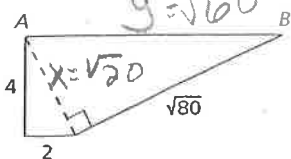


$P = 3 + 4 + 4 + 5 + 4 + 5$

$P = 25 \text{ cm}$

Find the length of AB to the nearest hundredth centimeter. All measurements are in centimeters, but figures may be drawn to different scales. Show how you find the length.

21.



$$4^2 + 2^2 = x^2$$

$$16 + 4 = x^2$$

$$20 = x^2$$

$\sqrt{20} = x$

$x = 4.47 \text{ cm}$

$(\sqrt{20})^2 + y^2 = (\sqrt{80})^2$

$20 + y^2 = 80$

$y^2 = 60$

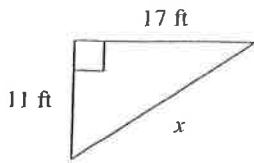
$y = \sqrt{60}$

$\approx 7.74 \text{ cm}$

Name: _____

In the given right triangle, find the missing length to the nearest tenth.

26.



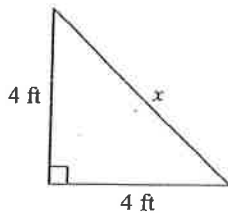
$$11^2 + 17^2 = 410$$

$$x = \sqrt{410}$$

$$x = 20.2 \text{ ft}$$

Not drawn to scale

27. Find the length of the hypotenuse. Round to the nearest tenth if necessary.



$$4^2 + 4^2 = x^2$$

$$32 = x^2$$

$$\sqrt{32} = x$$

$$x = 5.7 \text{ ft}$$

$$4\sqrt{2} = x$$

28. Ingrid is making a quilt using squares that measure 5 in. on a side. What is the length of a diagonal of one of the quilt squares? Round to the nearest tenth.



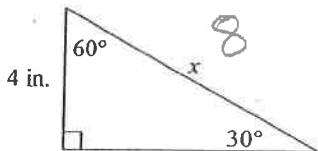
$$5^2 + 5^2 = x^2 \quad x = \sqrt{50} = 5\sqrt{2}$$

$$= 7.1 \text{ in}$$

Find the missing lengths in the triangle. Round to the nearest tenth if necessary.

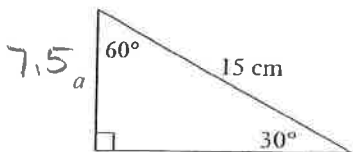
Write as a simplified radical.

29.



$$4\sqrt{3} = 6.9 \text{ in}$$

30.



$$7.5\sqrt{3} = 13.0 \text{ cm}$$