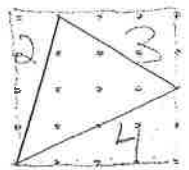


Pythagoras Test Review

Show ALL work!!

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



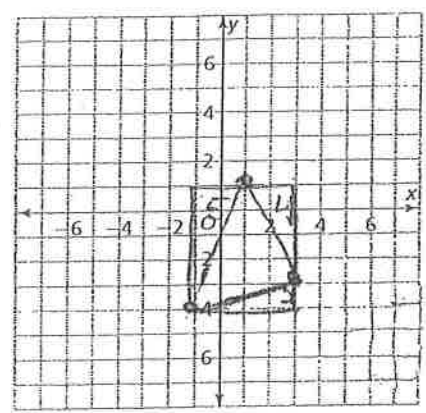
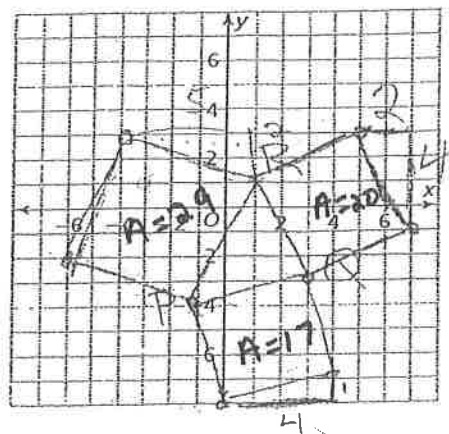
$$4 \times 4 = 16 - 9 = 7 \text{ units}^2$$

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.

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

- c. What is the area of figure PQR?

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

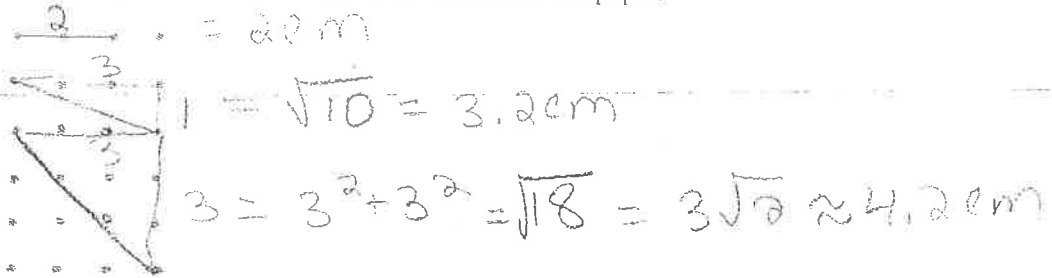
$$PQ^2 = 5^2 + 2^2 = 29 \quad PQ = \sqrt{29}$$

$$4 \times 5 = 20$$

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

Name: _____

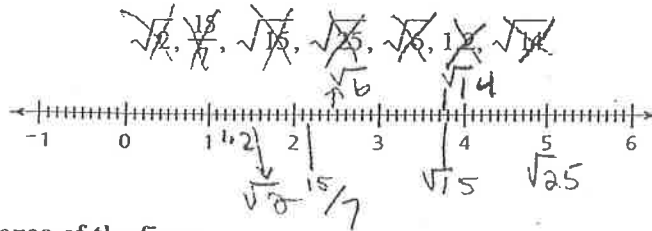
3. The three line segments below are drawn on centimeter dot paper.



- 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.

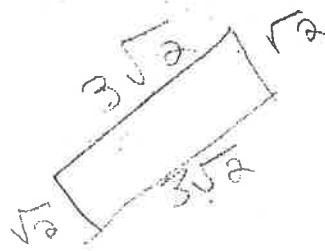


Find the perimeter and area of the figure.

5.



Area 6 units^2
 Perimeter $8\sqrt{2} \text{ units}$
 $\approx 11.3 \text{ units}$



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

$$\begin{aligned}
 3^2 + 3^2 &= c^2 \\
 18 &= c^2
 \end{aligned}$$

$$\sqrt{18} = c = \sqrt{9 \cdot 2} = 3\sqrt{2}$$

$$1^2 + 1^2 = c^2$$

$$\sqrt{2} = c$$

Name: _____

Key

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

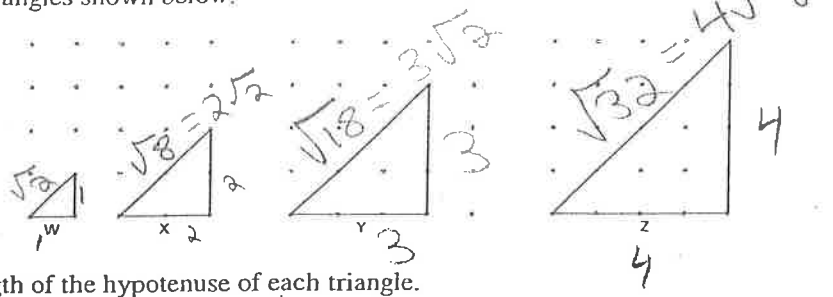
c. $-7 = \sqrt{49}$

T

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

T

18. Consider the right triangles shown below.



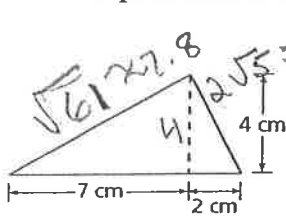
a. Find the length of the hypotenuse of each triangle.

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.

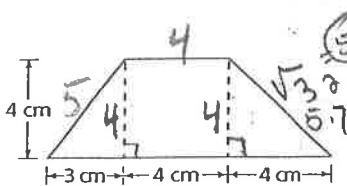
19.



$4^2 + 2^2 = c^2$
 $16 + 4 = c^2$
 $20 = c^2$
 $c = \sqrt{20}$
 $c = 2\sqrt{5}$

$(2\sqrt{5})^2 + x^2 = 9^2$
 $20 + x^2 = 81$
 $x^2 = 61$
 $x = \sqrt{61} = 7.8$
 $P = 7.8 + 4.5 + 9$
 $P = 21.3$

20.

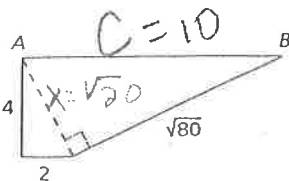


$4^2 + 4^2 = c^2$
 $c = \sqrt{32}$

$5 + 4 + 5.7 + 3 + 4 + 4 = P$
 $P = 25.7$

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.



$4^2 + 2^2 = x^2$
 $16 + 4 = x^2$
 $20 = x^2$
 $x = \sqrt{20}$

$x = 4.47 \text{ cm}$

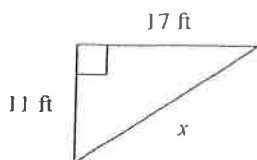
$(\sqrt{20})^2 + (\sqrt{80})^2 = C^2$
 $20 + 80 = C^2$
 $100 = C^2$
 $C = 10$

$AB = 10$

Name: _____

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

26.



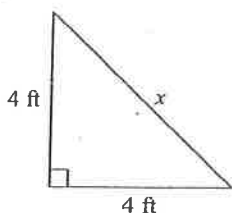
$$11^2 + 17^2 = 410$$

$$x = \sqrt{410}$$

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

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.



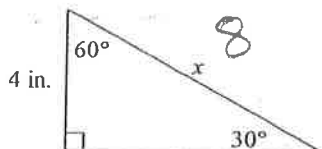
$$5^2 + 5^2 = x^2 \quad x = \sqrt{50} = 5\sqrt{2}$$

$$= 7.1 \text{ in}$$

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

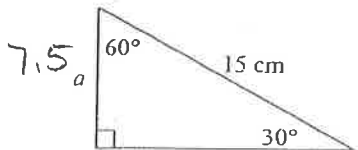
Write as a simplified radical.

29.



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

30.



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