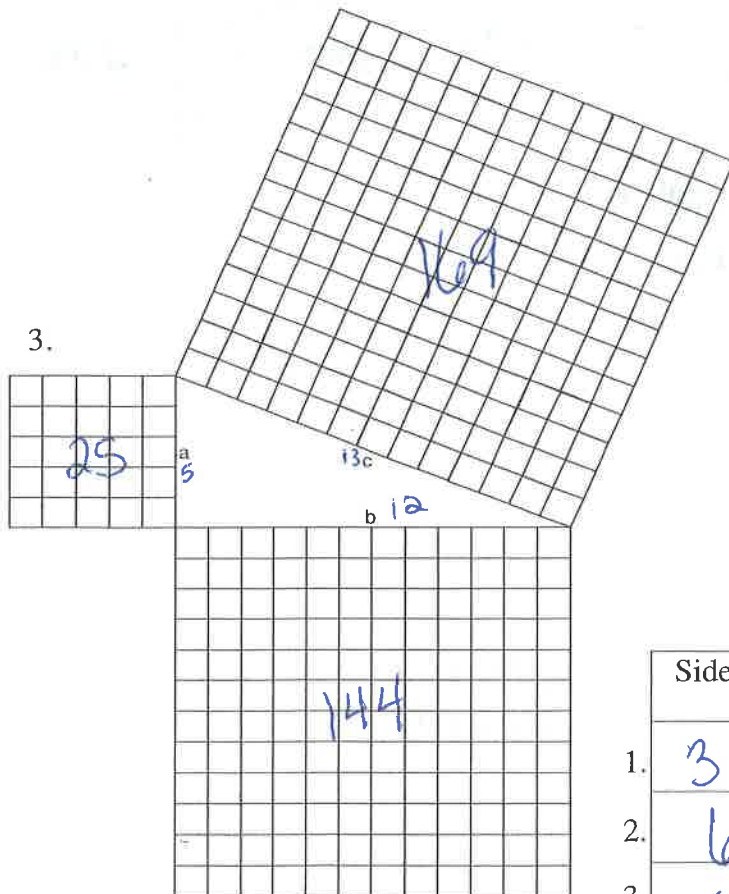
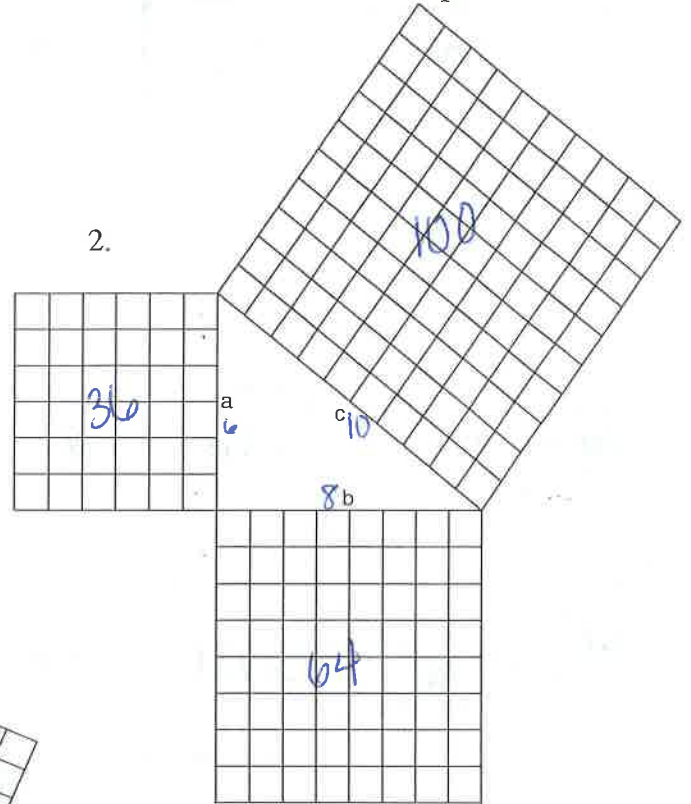
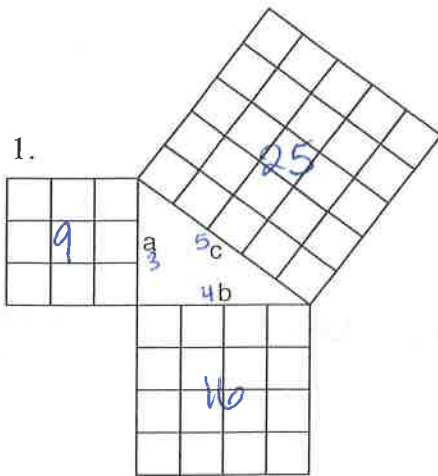


Name _____

Introducing The Pythagoras Theorem

Discover the relationship given in the Pythagorean Theorem, $a^2 + b^2 = c^2$ by computing the areas of the squares. Complete the table. Use the results to describe the relationships.



	Side a	Side b	Hypotenuse, c	a^2	b^2	c^2
1.	3	4	5	9	16	25
2.	6	8	10	36	64	100
3.	5	12	13	25	144	169

1. Which of the following models the Pythagorean Theorem?

$$a^2 + b^2 = c^2$$

A) $3 \text{ in} \times 3 \text{ in} = 9$ + $4 \text{ in} \times 4 \text{ in} = 16$ = $5 \text{ in} \times 5 \text{ in} = 25$ ✓

C) $2 \text{ in} \times 2 \text{ in} = 4$ + $3 \text{ in} \times 3 \text{ in} = 9$ = $6 \text{ in} \times 6 \text{ in} = 36$ ✗

B) $4 \text{ in} \times 4 \text{ in} = 16$ + $5 \text{ in} \times 5 \text{ in} = 25$ = $9 \text{ in} \times 9 \text{ in} = 81$ ✗

D) $3 \text{ in} \times 3 \text{ in} = 9$ + $5 \text{ in} \times 5 \text{ in} = 25$ = $4 \text{ in} \times 4 \text{ in} = 16$ ✗

2. Which of the following models the Pythagorean Theorem?

A) $6 \text{ in} \times 6 \text{ in} = 36$ + $8 \text{ in} \times 8 \text{ in} = 64$ = $14 \text{ in} \times 14 \text{ in} = 196$ ✗

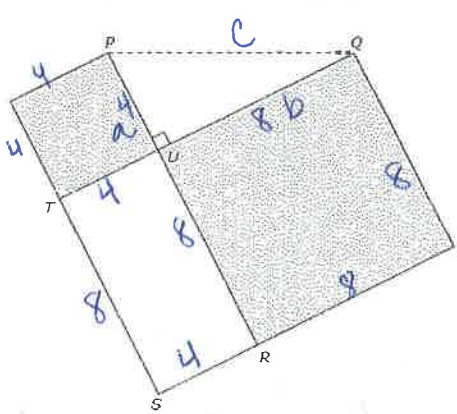
C) $9 \text{ in} \times 9 \text{ in} = 81$ + $15 \text{ in} \times 15 \text{ in} = 225$ = $12 \text{ in} \times 12 \text{ in} = 144$ ✗

B) $5 \text{ in} \times 5 \text{ in} = 25$ + $6 \text{ in} \times 6 \text{ in} = 36$ = $61 \text{ in} \times 61 \text{ in} = 3721$ ✗

D) $3 \text{ in} \times 3 \text{ in} = 9$ + $5 \text{ in} \times 5 \text{ in} = 25$ = $15 \text{ in} \times 15 \text{ in} = 225$ ✗

None!
None follow $a^2 + b^2 = c^2$

3. In the diagram below, $RSTU$ is a rectangle, and the two shaded regions are squares.



$$a^2 + b^2 = c^2$$

$$(4)^2 + (8)^2 = c^2$$

If the length of \overline{SR} is 4 m and the length of \overline{ST} is 8 m, what is the length of \overline{PQ} in meters?

- A) $\sqrt{80}$ m
- B) $\sqrt{24}$ m
- C) $\sqrt{68}$ m
- D) $\sqrt{144}$ m

$$16 + 64 = c^2$$

$$\sqrt{80} = \sqrt{c^2}$$

$$\sqrt{80} = c$$