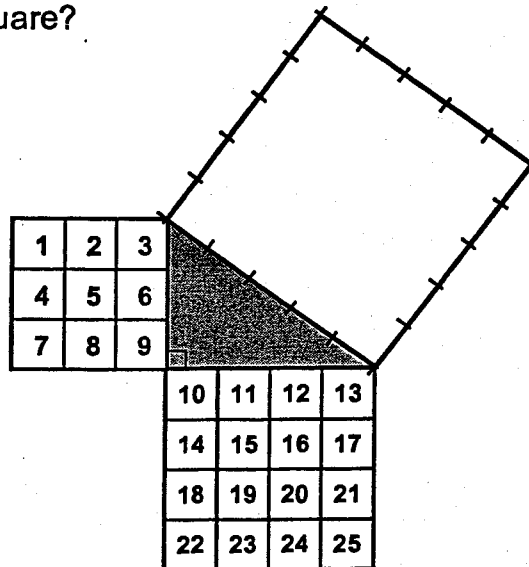1.    Consider the triangle with attached squares shown. How many numbered squares
      will it take to fill the large square?
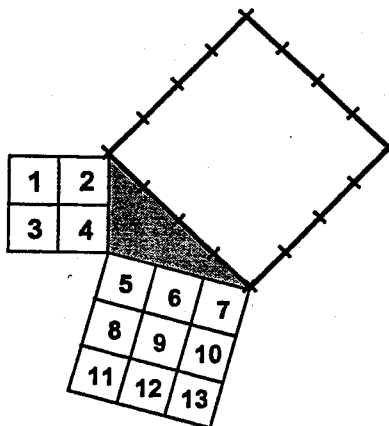
      Answer _____

      

      We can also refer to the numbered squares as unit squares. Use the tick marks
      along the sides of the large square to check the number of unit squares that fit.

      How is this problem like the problems in the Perplexing Puzzles activity?

_____

2.    Now consider this triangle problem. How many unit squares are required to fill the
      large square?

      Answer _____

      

      Draw in the unit squares on the large square. Was your answer correct? Why or
      why not?

_____

      How is the problem different from problem 1 and the problems in the Perplexing
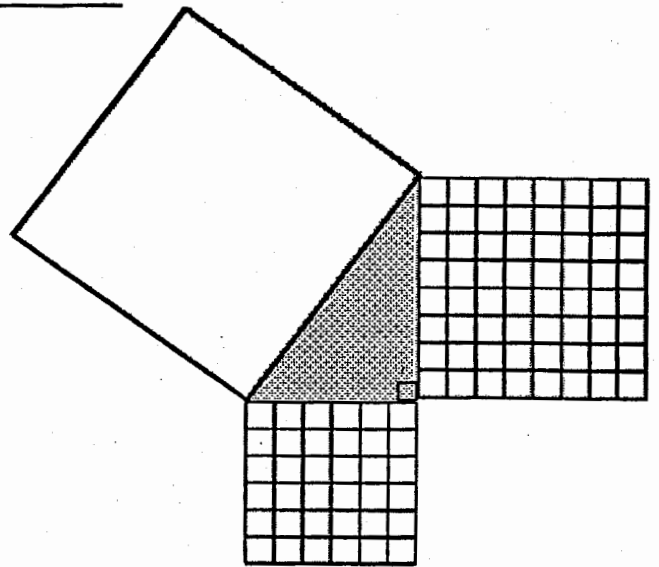      Puzzles activity?

What has to be true for your observation about the sums of the areas of the smaller squares and the area of the larger square?

_____

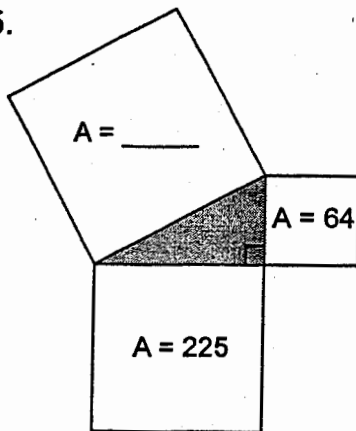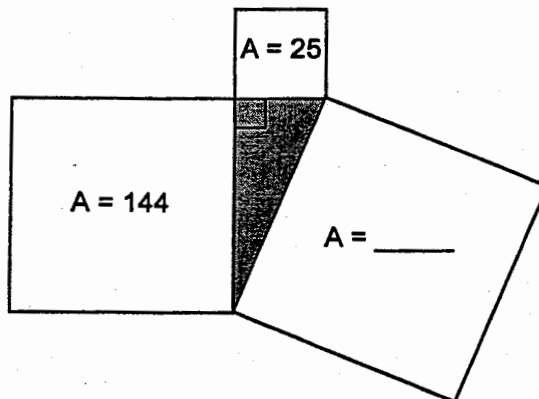**Give the number of unit squares that would fit in the hypotenuse square.**

3. _____
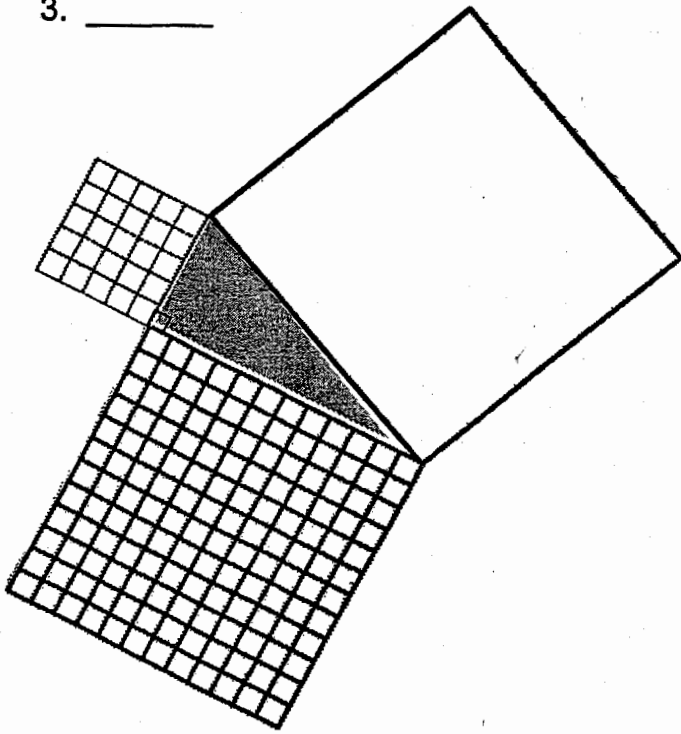
4. _____

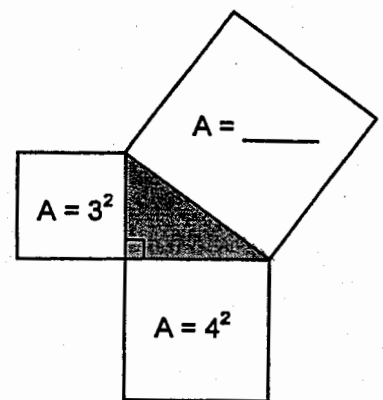**Find the missing area and write it in the blank. You may use grid paper to help you.**

5.

$A =$ _____

$A = 64$

$A = 225$

6.

$A = 25$

$A = 144$

$A =$ _____

7.

$A =$ _____

$A = 3^2$

$A = 4^2$

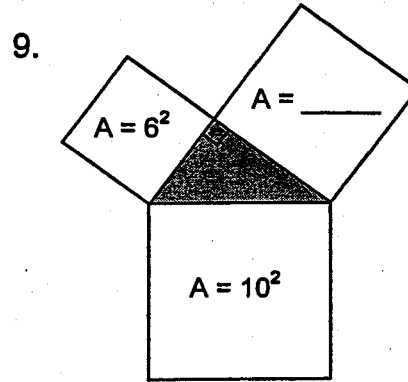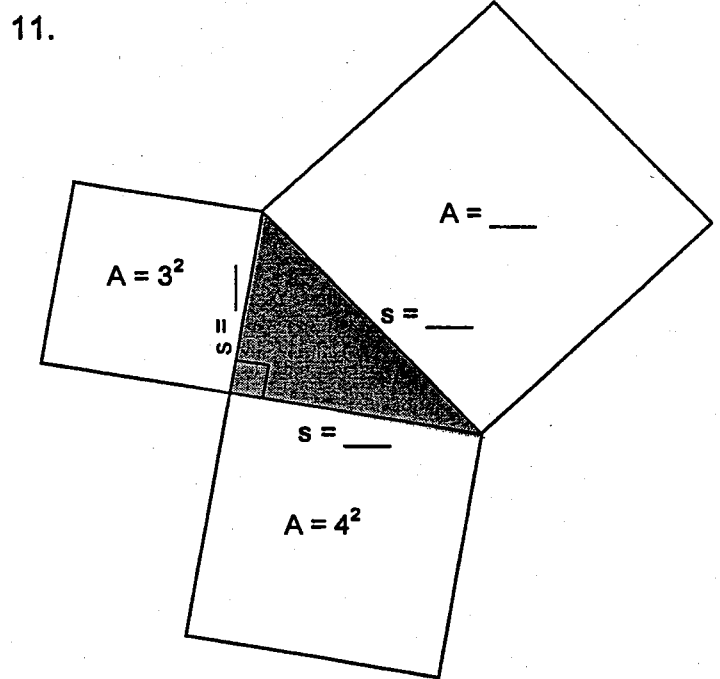**Find the missing area and write it in the blank. Be careful!**

8.

A = 144

A = \_\_\_\_

A = 225

9.

A = $6^2$

A = \_\_\_\_

A = $10^2$
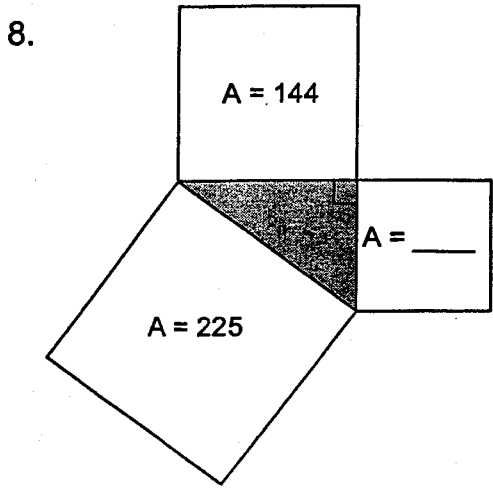
**Find the lengths of the sides of the triangle and write them in the blanks.**

10.

A = 144

s = \_\_\_\_

s = \_\_\_\_

A = 81

s = \_\_\_\_

A = 225

11.

A = $3^2$

s = \_\_\_\_

A = \_\_\_\_

s = \_\_\_\_
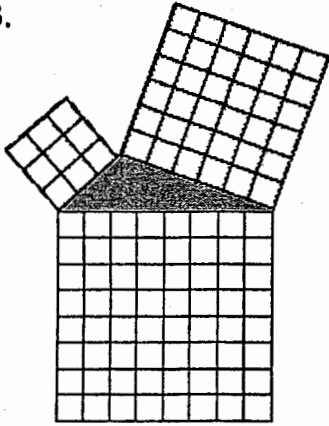
s = \_\_\_\_

A = $4^2$
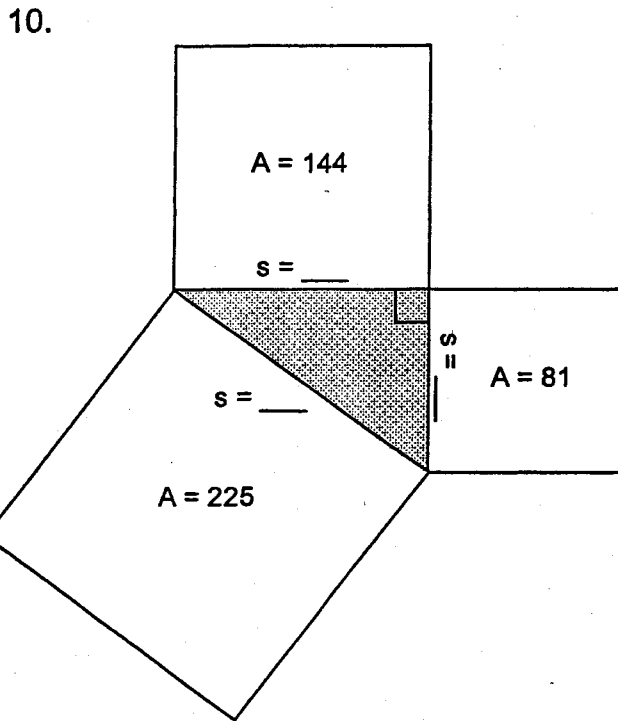
**Fill in the blanks below using the word bank.**

12.    In a _____ triangle, the square of the _____ equals the
       _____ of the _____ of the two legs.

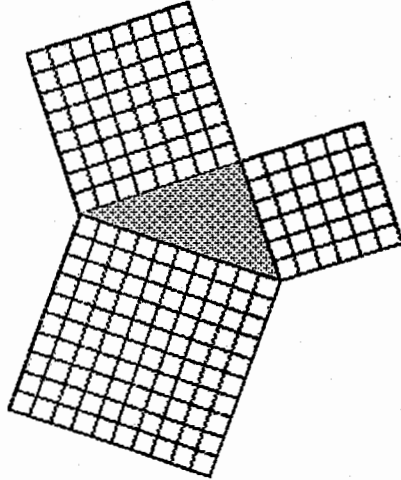| Word bank: | squares | hypotenuse | difference | sum |
|---|---|---|---|---|
| | acute | right | legs | length |

(2

**Which of the following shaded triangles are right triangles? Circle the pictures that show right triangles and place a big X on those that do not.**
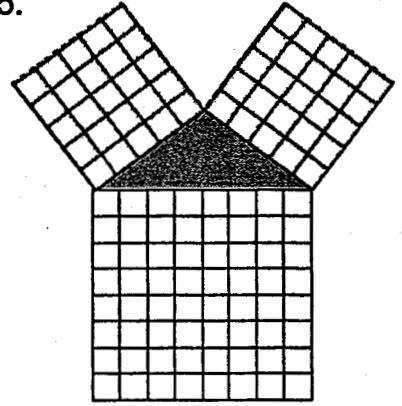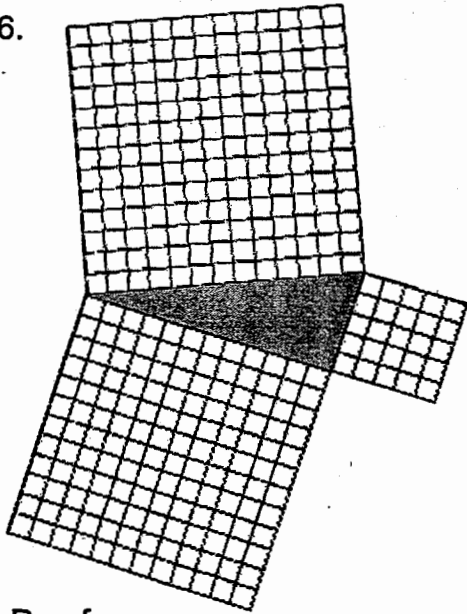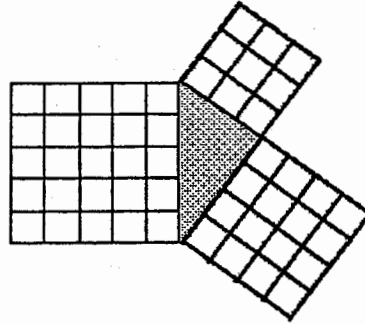
13.

Proof _____

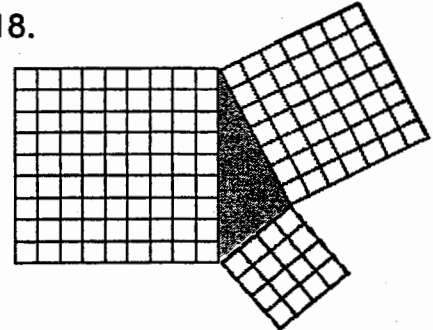14.

Proof _____

15.

Proof _____

16.

Proof _____

17.

Proof _____

18.

Proof _____

**Prove your choices in problems 13 – 18 using the areas of the attached squares.**

13